THE CULTIVATOR.

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

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The Cultivator & Country Gentleman.

THICK vs. THIN SEEDING TO CLOVER.

MESSRS. EDITORS—In Co. GENT. No. 20, page 315, F. C. W., after referring to sowing a peck of clover seed to the acre, asks: "whether the seed produced by such thick seeding will be as large and plump as that from thinner?" And also remarks that "we can sow grain so thick that it will not yield a large plump seed." While I have no doubt that grain has been and can be sown too thick to yield a good plump seed, I have never seen clover so thick as to make any difference in the quality of the seed. I have raised clover seed where there was eight quarts of clover seed and four quarts of timothy sown to the acre, and had as handsome plump seed as I have ever seen anywhere.

The second crop or cutting of clover never makes so large branching growth as the first crop, but usually sends up a more moderate growth of short, stout stems, with fewer branches and larger heads, which, if the land is in good condition and season favorable, will be well filled with good plump seed.

This I believe is the case with both the large and small kinds of clover—the small kind cut, about the first of July, or when fairly in blossom for hay, and then saved for seed, and the large kind fed down pretty close by about the middle of June, and then saved for seed. I have never raised much of the large kind of clover, but have frequently observed that when first pastured and then saved for seed, that the growth was a great deal shorter, with straight stiff stems, than was the case when grown for hay in the usual manner—while my experience with the small kind shows that there is always a considerable difference between the growth of the first and second cuttings, so that where I have thought the first cutting might be too thick, there was no indication that this was the case with the second crop.

But I have never had any clear clover that was too thick. Several years ago I sowed a peck of clover and four quarts of timothy to the acre, on eight acres of winter grain, which, as there was a fine catch and it done well, appeared to be rather too thick. But as both kinds of seed was sown in the spring, the clover for the main crop, and the timothy only intended for a kind of filling up, so as to get the ground more completely covered and occupied, and a thicker and firmer sod, and at the same time a firmer and better quality of hay, I found that the first year the timothy made a comparatively small show the first cutting, while it did not appear to have much effect on the second crop of clover, which was saved for seed. Had the timothy been sown in the fall, there probably would have been a larger growth that would have had more effect on the clover. Hence, I conclude that when timothy is intended for the main crop it should be sown in the fall; but when the main object is to get a good crop of clover, and timothy is only sown to help fill up, and after clover begins to run out to take its place, then both should be sown together in the spring,—my usual practice being to sow both when seeding with wheat. But when seeding with spring crops, sow only clover, which is to be followed in a year or two with wheat; timothy not doing as well when sown with spring crops, nor being of so much advantage where the clover is plowed up so soon.

Having concluded that a peck of clover seed and four quarts of timothy was rather thick seeding, I have since sown six quarts of clover and four of timothy, which has given very satisfactory results on my land. When only clover is sown, I find it poor economy to sow less than a peck to the acre—while on good land, I find that a peck is enough or about the right quantity.

Profits of Thick Seeding.

As no doubt there are many farmers in other States besides Ohio, that, as F. C. W. says, "will require more than moral suasion to convince them that to double the dose will prove the most profitable," I have thought that a little calculation might be useful in demonstrating the poor economy of light seeding, and placing in a rather strong light some of the advantages of sowing at least a peck to the acre.

At the prices here the past winter, clover seed $15 a bushel and hay $20 a ton, 200 lbs. of hay will more than pay for four quarts of seed—while I am satisfied there can be little doubt that that amount of seed, when sown in addition to the—in many places—usual

amount of four quarts, would make an addition of some 800 to 1,000 lbs. to the first crop of hay, and a bushel of clover seed to the second crop, and probably from 500 to 1,000 lbs. to the amount of hay the second year. So that, if the clover is then turned under for wheat, there will be at a moderate calculation 1,500 lbs. of hay worth $15, and a bushel of seed worth as much more, making $30 realized for an outlay of less than $2. Or, calculating the grain at only half, say 800 lbs. of hay and half a bushel of seed, there would then be over $15 realized for less than $2. At the same it should be kept in mind that where land lays longer the crops will continue to be better, as thick seeding lasts proportionally much longer and better than thin; so that where land lays three or four years, there is a much larger profit for the extra seed than there can be where it is plowed up sooner.

In calculating hay and clover seed at ordinary peace prices in this section—hay at from eight to ten dollars a ton, and seed from five to six dollars, the aggregate profit per acre will be much less though the per centage will be greater, as 150 lbs. of hay will pay for four quarts of seed. Perhaps this will be better understood by making a little calculation for a ten-acre field. To add four quarts to the acre on ten acres, will take 40 quarts, or one and a fourth bushels, at a cost of $6.25 to $7.50, for which, allowing a gain of 1,500 lbs. of hay and a bushel of seed to the acre, there will be realized on ten acres from $110 to $135—and this is only calculated for one whole season and half of the next. Where the land is mowed three years, and there is a gain of half a ton of hay each year, and one bushel of clover seed the first year, there would be a gain of over $200 on ten acres for the small additional outlay of a bushel and a peck of clover seed sown. At the same time, I have no doubt that the increase in the second cutting or after feed for the second and third years, will much more than pay for the difference in the cost of seed, to say nothing in regard to the additional improvement of the land by heavy seeding. It may be well to mention that as timothy seed is usually about half the price of clover, four quarts of timothy and six quarts of clover will cost about the same as a peck of clover, and in the foregoing calculations is considered the same.

But there is not only a gain in the amount of hay by thick seeding, but the quality is much better. For with thin seeding the grass or clover will be coarse, having a hard woody stem; while in thick seeding it will be fine and soft, being much better relished and more readily consumed by all kinds of stock—there frequently being so much difference between coarse and fine hay, that while all kinds of stock will eat up clean the latter without any difficulty, it is rarely the case that the former—unless very sparingly fed out—is all consumed.

Of course there will be a difference in opinion among farmers in regard to the difference in value between coarse and fine hay, but I believe it will generally be put at from one dollar to two dollars a ton. Then allowing the land to be mowed three years, yielding on an average only one and a half tons to the acre, making four and a half tons, there will be at one dollar a ton, four and a half dollars an acre, or $45 on ten acres; or allowing two dollars a ton, there will be nine dollars an acre or $90 on ten acres, gain in the quality of the hay by thick seeding—and making altogether a gain of from $150 to about $300 on ten acres in three years, for the small outlay of a bushel and a peck of clover seed or some six or seven dollars.

In view of these facts, is it not a wonder that so many farmers still follow the old practice of light seeding? Few farmers hesitate in buying any article that there is a reasonable certainty of selling again at a profit. They are generally ready to buy any animal or other property, where by paying from $20 to $50 they can make from five to ten dollars. But from some unaccountable reason, when they come to lay out a similar amount of money for seed to do their year's seeding, they seem to be governed by entirely different motives or calculations. For, while in the former case they are willing enough to invest from $30 to $50, if on every ten dollars they can make one dollar profit, they often refuse or neglect to lay out less than half this amount of money in heavy seeding, when by so doing they make from five to ten dollars for every dollar thus invested.

Now this is not the case because they do not want to make money, for it is from this class of farmers that we hear the most complaint about farming being unprofitable. But it seems to be owing to following old practices without much thought or consideration, looking on the money invested in seeding much as they would on money spent in traveling for pleasure or in any kind of amusement, instead of considering it one of the most profitable operations on the farm. Now the remedy for this must be found in observation, consideration and calculation. Few farmers will double the amount of seed sown because it is strongly recommended by the writer; but if anything can be said that will induce them to somewhat closely observe the difference in the amount and quality of the crops raised by both thick and thin seeding; to give the subject all needful consideration, figuring out the profits and advantages, so as to thoroughly understand it in all its bearings, I have not the least doubt that it will be much more sure to lead them to experiment on seeding, by sowing different amounts of seed, until they are able to determine very nearly the amount of seed that can be sown on their land to the best advantage. F. *Orleans Co., N. Y.*

CARE WITH STRAW AND FODDER.

A great deal of discussion has occurred of late years as to the comparative value of straw, cornstalks, hay, &c. The diversity of views, which is obvious, is no doubt owing largely to the imperfect manner in which these different substances are cured and preserved. One farmer, for example, finds the use of straw of great value, keeping his cattle and other domestic animals in excellent condition, with a very little grain or meal. Another denounces it as nearly worthless, as his bony cattle abundantly indicate. On further examination, we find that the first has taken much pains to secure his straw in the best order—the other has neglected it, allowed it to become wet, musty and unpalatable. The same result has taken place with clover hay—one man has it fresh, green and excellent; with another it is black, tasteless, or repulsive, having been washed by rains or become mouldy by partial

drying. The same difference exists with corn-fodder —resulting in one instance from timely cutting, and securing in stiff, erect shocks—while in the other the stalks are cut out of season, badly put up, tipped over by winds or by their weight, and drenched, blackened and rotted by long rains. Who can expect his cattle to eat and thrive on this incipient manure?

The season is now approaching when farmers should give especial attention to this subject. Those who are about to cut their wheat, should remember that if harvested before the heads droop and become fully ripe, or while in the *dough* state, the tips of the chaff being yet green,) the grain is better and even heavier —the straw, if well dried, is brighter and more valuable for feeding. Therefore, cut early, secure in good, well protected shocks, until fully dry, and place the straw when thrashed, either under a roof, or else in as well built stacks as are deemed requisite for hay.

Hay should be well and evenly dried—not in lumps or bunches, or in badly dried cocks, where it becomes yellow and sour. A good hay tedder, run by two horses, however valuable it may prove in expediting work, and saving labor in dodging stones, will doubtless be found still more valuable in consequence of the perfection of the hay it will enable the farmer to manufacture.

ABOUT BUCKWHEAT.

The value of this crop annually produced would seem to demand a better culture than it usually receives; and might with propriety claim more than the passing notice it receives from our agricultural journals. While most other crops occupy considerable space in the best modes of culture, etc., this is in a measure passed by. We see much said or printed in regard to oats, and justly we think, but when we compare the value of the two crops, we find that buckwheat is of equal or greater value. In the crop report of 1864, we find the ratio in bushels to be as 9 of oats to 1 of buckwheat, while the acreage and value are equal; that is, an acre of buckwheat, whilst producing fewer bushels, will bring as many dollars as an acre of oats. If we compare the expense, etc., of production, we find that while oats require and receive good culture on rich soil and good land, buckwheat is often grown on poor land, or at least on land poorly prepared for growing any kind of crop; often it is put in with little care, the land being only partially plowed, full of sods, lumps, etc., etc., and not half harrowed at that; yet from such care we often get 25 bush. of seed per acre, and the land is left lighter and in better condition to work for the succeeding crop. Buckwheat being of a quick dense growth, it overshadows the weeds, keeping them under, and thus often subduing them. It requires cool nights to perfect its seed, and is not usually sown till July, that the hottest part of the weather may have passed before it comes into blossom; the sowing is delayed as long as possible and give sufficient time for it to ripen previous to early frosts. In different localities this occurs at different dates. The rule in Connecticut is to sow when chestnut trees are in bloom, and as a general thing this gives sufficient time for its maturity.

The soil should be pulverized and made sufficiently fine, that the germination may be immediate, and the growth rapid, when a good crop may be expected. Soils vary so much in different localities that no universal treatment can be adopted as a general rule, as applicable under all circumstances and in all localities. Heavy, hard soils require a different working from those of a lighter and more dry nature; the former, unless plowed in the spring, becomes at the proper time of sowing, hard and dry, breaking up in large lumps or clods, leaving the soil in a very unfit state for vegetating in. If plowed in the spring, the action of the rains and air render it easier of pulverizing, and it can be worked, even in a dry time, into a respectable condition. Lighter, drier soils can be worked at any time, and at once brought into condition. The quick, rampant growth of this plant makes it especially valuable for green manuring; it also forms good pasturage for bees, although the honey is unequal to clover, yet the quality is compensated by quantity. The straw, when properly cured and stored, forms a very good occasional feed for cattle, although many object to feeding it, yet I find that a small feed once or twice a week is readily eaten, and with good effects, especially by horned cattle and their young. The grain is valuable as feed for man or beast. Who among us does not relish and prize the nice soft cakes made from its fine meal? As feed to stock, mixed with other grain and ground, it forms a valuable addition; for poultry and sheep it gives variety, and thus serves a useful purpose.

South Windsor, Conn. W. H. WHITE.

Profitable Culture of the Strawberry.

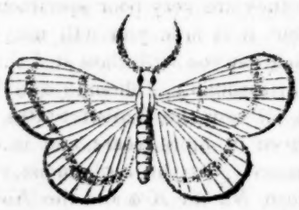
One of the finest plantations of the strawberry that we ever saw, was that of O. J. Tillson of New Paltz Landing, Ulster Co., N. Y., when visited towards the close of last summer. A short account of this plantation was given in the COUNTRY GENTLEMAN at the time. The rows were about three feet apart, and the plants or "hills" fifteen inches in the row. The runners were cut off once a week with a pair of sheep-shears, and as a consequence, the growth of the plants far exceeded in size and vigor, the same under ordinary treatment. A letter just received from a gentleman at that place, informs us that this method has proved a "perfect success, and that he will clear $2,000 this season." The plantation, we understand, consists of about two acres.

RUSSELL'S STRAWBERRY.

At the late meeting of the Fruit-Grower's Society at Rochester, it was the general admission that this variety is too soft for market, and could not be carried more than a few miles at furthest. Probably the extreme wetness of the present season may have increased this difficulty. At any rate we are inclined to think it has been exaggerated, as we have seen specimens grown in dryer weather that had been carried safely 150 miles by railroad; and we have seen others conveyed uninjured for many miles by carriage. Some cultivators in Western New-York have told us that the Wilson sells for as high a price, although the Russell is regarded as better in flavor. The fact that the Russell requires impregnation by a staminate, in order to become fully developed, is a drawback on its value. Yet we must place it among a half a dozen of the best sorts, especially for home or family use.

THE CURRANT WORM.

During the discussions at the late meeting of the Fruit-Growers' Society at Rochester, we were surprised to hear three different members, men of great intelligence, state that the perfect insect of the currant worm is a small yellow or orange colored *fly*. As this opinion appears to be a common one, it may perhaps be regarded as a sufficient correction, to refer to Dr. Fitch's



Third Report to the New-York State Agricultural Society, page 109, where the perfect insect is described as a moth [or "miller,"] "of a pale nankin yellow color, the wings with one or more faint dusky spots behind their middle in the male, and in the female with an irregular band crossing both pairs." The wings measure from tip to tip about an inch and a third. These insects have been repeatedly obtained from the worm, removing all doubt as to their appearance and character; and they may be seen in abundance hovering along currant rows in summer, where the larvæ have been permitted undisputed sway.

We have never known the sprinkling of white hellebore on the leaves to prove a failure. As a general rule, *repellants* of insects are of little or no value, but those remedies only are efficient which *kill*. The powdered white hellebore effects this result immediately, as soon as the worms take the first dose, no matter how thinly it has been sprinkled over the leaves from the finely perforated dredging-box. P. Barry stated at the Fruit-Growers' meeting above mentioned, that he found it better to make a solution of the hellebore in water, and throw it on the leaves with a syringe. There may be other poisons that will answer the same purpose, but none appear to have been tested—although we have heard that a solution of copperas, the water being 30 or 40 times in weight that of the copperas, had been found effectual, but farther trial is needed to prove it of value.

ROTTING OF THE CHERRY.

In some districts of the country, the wet weather has nearly or entirely destroyed the cherry crop the present season, and earnest inquiries for a remedy are the consequence. The only remedies known, appear to be prevention. In order to get rid of the moisture as speedily as possible after rains, the trees should be planted where the air circulates freely, on hills or exposed places, and as much as possible away from other trees. Cherry orchards should therefore never be crowded. Besides these precautions, select those soils which rot the least, or make it a point to have enough of them to furnish a supply in very wet seasons, when others are destroyed. Probably no variety is less affected than the Early Richmond, (the genuine sort,) the rich acid flavor appearing to be proof against it. All high flavored acid varieties withstand rot better than the sweeter and more delicate sorts. The Morellos are valuable in this respect, and the Dukes are commonly less affected than the Hearts and Bigarreaus. Of the latter, the old Black Carone is one of the best, —a sort thrown out of most collections years ago, but worthy of a place on this account, and a good high flavored fruit when perfectly ripe. Some of Dr. Kirtland's new sorts have a rich acid flavor, (such as the Tecumseh and Red Jacket,) and we have found these to withstand rot better than the more esteemed and delicate varieties. The common Black Tartarian is a very delicate and nearly sweet fruit, and hence particularly liable to this disease.

PIPES FOR WATER.

S. N. F. of Mossy Creek Farm, desires some information in relation to conveying the water of a spring three-fourths of a mile to his house. But as he has not stated the difference in level between the spring and the house, nor whether the water could be carried (circuitously or otherwise,) by a gradual descent the whole distance, we are unable to inform him as to the best way. Neither has he mentioned the size of the spring, and we cannot therefore say whether it would be sufficient to drive a water ram for elevating the water from the foot of the hill up to the house.

We may therefore state generally, that water may be conveyed by a continuous descent without any difficulty whatever, even if the descent is very moderate, say one foot in a hundred, or less. We have made water pipes for this purpose, extending a distance of three-fourths of a mile, by laying tubular drain tile in water lime cement, covering it with the same—the whole expense of which, including digging the ditch, cost of pipe and mortar, drawing and labor, is about sixty-five cents a rod. The last fifty rods being a steeper descent, was lead tube, the object being to obtain a head, and the tile not being strong enough for this purpose. The water from the tile emptied into a reservoir, from which the water was drawn into the lead tube on the opposite side. This reservoir retained all the sediment from above. The advantages of the pipe tile and cement are cheapness and capacity—the latter being desirable where the descent is moderate. It would also answer well for conveying a large stream to drive a ram. There is no difficulty in driving water 50 or 60 feet high, by means of a ram in a good lead lead pipe. For simply conveying water down a slope, pipe should never be less than three-fourths of an inch, interior bore—an inch is better. If less, the friction will prevent the water from running freely.

In this latitude we never place the pipe less than two feet under the surface, to escape freezing. This is quite insufficient to keep the water cool in hot weather, as the temperature of the earth by mid-summer becomes quite warm at this depth. For driving a ram, the spring should be at least large enough to fill an inch bore while running freely.

Remedy for Birds Pulling Corn.—I have almost entirely prevented the birds from taking up corn this season, by sowing *soaked* corn liberally around the planted field, especially near grass fields where our red-winged black birds are most plenty. This season has been especially troublesome on account of the frequent showers keeping the ground soft, so that the birds could easily pull up the young corn. But although I planted my corn without any tar, and used no gun or poison, by liberal feeding, they did not make me one hour's work in re-planting 18 acres. J. G. WILLIAMS.

* Even this has only been very recently accomplished, we believe, by a French chemist, BERTHELOT, and we do not know how perfectly.

"INTRODUCED GRASSES."

MESSRS. EDITORS—An erroneous opinion has long prevailed with American botanists and others, to the effect that it is impracticable to cultivate successfully European grasses south of 38° north latitude in the United States. Justice to our agricultural advantages, and the payment of our large national debt, alike demand the general correction of this climatic mistake.

In an extended essay, characterized by equal research and value, on "The Geography of Plants," published in the Report for 1863, by the United States Commissioner of Agriculture, Mr. Lippincott says:—'The grasses furnish evidence of aridity which cannot be readily overlooked, and fail to cover the earth with perennial verdure, as in the moister climate of England and Western Europe. South of the parallel of 38° north latitude, *the introduced grasses* cannot be cultivated."

What is said of the comparative aridity of the climate of the United States by Mr. L., Mr. Blodget in his Climatology, and others, is true; nevertheless, the Southern climate is not so dry as to prevent the cultivation of European grasses, although European grasses fail probably more from excess of moisture in the air than a deficiency. Where the climate of the South is damp enough for hanging moss to grow on forest trees, and Sea Island cotton on plantations, the atmosphere is too humid for even American grasses to be a safe crop, but not too moist for the "introduced grasses."

The Southern States contain over six hundred million acres of land; and few men will see clearer than Mr. Lippincott the importance of devoting a part of this vast area to grass-culture, and the raising of neat cattle, horses, mules, sheep and wool, if the business can be made profitable. Tennessee lies wholly south of 38° north latitude; yet, with a white population of 826,782, in 1860 it returned 41,532 bushels of grass seeds; while Ohio, with a population of 2,339,511, returned 53,475 bushels. The seeds grown are the same in both States, and the figures show more than two bushels to one in favor of Tennessee. A part of Virginia lies south of 38°, and its white population is about a third that of Pennsylvania. The last named State reports 57,204 bushels of grass seeds—the former 53,063 bushels. There are several species of European grasses cultivated in Virginia south of 38° which I have never seen in Ohio, Pennsylvania and New-York, although I have looked for them in those States during the past summer. Mr. Richard Peters of Georgia, has a farm of some 2,000 acres devoted to the raising of stock, and grasses from imported seed. Mr. C. W. Howard has some 1,200 acres used in the same way. The writer had, when the war drove him out of Georgia, some forty different species of European grasses under trial on a farm of 600 acres. About half were likely to prove exceedingly valuable to recuperate the fourteen million acres of old fields in that cotton State.

In fifteen years the United States will have a population of fifty millions, and many more will see the wisdom of cultivating perennial grasses, perennial fruits, perennial forest trees, perennial flocks and herds, south of 38° north latitude, by a perennial nation of farmers. D. LEE.

Blount Co., Tenn., June 17, 1865.

Letter from the Sandwich Islands.

The Sandwich Island "Forage Plant"—New Dictionary of the Language—Another Grazing Plant—The Past Winter.

HONOLULU, May 18, 1865.

EDITORS COUNTRY GENTLEMAN—In your paper of Feb. 23, you express the desire that some of your subscribers here would send you samples of the seed of the "*Oi Oer.*" Inclosed are some. As it is not in the season for seed they are very poor specimens—perhaps may grow, but if it fails you will not lose much. Upon examination you will class it, I think, with the Verbenacea, (probably, Officina.) and is a little too well known all over the United States. It has been here for fifteen or more years, and is considered a great nuisance. On the cool, moist, rich, elevated plains between *Mauna Kea* and the *Kohala* mountains of the Island of Hawaii, it has taken complete possession of the country. Its approach was looked upon, by the Rancheros, with more dread than a flow of lava; but after rooting out all other forage, it was Hobson's choice with stock, eat that or starve. They did take to it, and the result was some as fine beef and mutton as one would wish to eat. It gives to the tallow a strong yellowish tinge.

To the taste, the weed is about as pleasant as wormwood. The natives call it *Hauoi*, (give vowels continental sound,) not *oer;* such a word does not exist in the language, rich as it is.

By the way, a dictionary of the language, containing 15,000 words, by Rev. L. Andrews, has just been published here. This work is indispensable to ethnologists, and should be in the library of every scholar and college in the country. The Hawaiian is the richest of all the languages of the "Monads of the Sea"—would probably amount to thirty thousand words if all were defined.

With the *Hauoi*, you will find a few seeds of another weed which happened to be growing beside it. They are larger, and easily distinguished. It is deep rooted and grows in the poorest soils, if warm and it dry, and improves them. It does not, however, refuse to grow in rich soils. Neat cattle are fond of it, and it is very fattening. It is probably a *Sida*, and a variety of the same is cultivated here in gardens for its flowers, a pretty yellow, which the native belles weave into wreaths for their head-gear.

Your severe weather of last winter extended itself to these Islands, if that fact is interesting to climatologists. Of the twenty-three years that I have lived here, none have been so cold and stormy.

T. METCALF.

Salting Down Cucumbers for Pickles.

EDITORS CO. GENT.—In number one, present volume, Nelson Cox wishes the "best mode for making pickles for sale by the barrel." Here is my plan:

Leave half-inch of stem on cucumbers—wash them in cold water—immediately pack with salt in alternate layers, salt next to wood—one barrel salt to five of cucumbers. Fill barrel full, putting salt on top—cut a wide board so as to just fit *inside* of barrel—bore half a dozen half-inch holes through—place it on pickles with a stone on, which should weigh at least twenty-five pounds, so as to keep the pickles always in brine. Take off all scum which rises. Keep the barrels in the shade, and in four weeks take off stone and fill to top, as they will settle some. Put more salt on, then head up, and they are ready for market. It is it best to have two sizes of pickles. W. W. C. *Fairport, N. Y*

WATERING TREES IN HOT WEATHER.

There is no practice on which we have given repeated instruction, that is so little understood as that of watering newly set trees and shrubs during the hot and dry weather of summer. Many persons dash water on the surface and never examine whether it goes down half an inch or an inch, while the roots may be six inches or a foot below, and as little affected by it as a thirsty horse would be by pouring a pail of water on his tail. It would be well worthy of the experiment for any reader of these remarks to give the surface of a hard piece of dry soil a drenching with a watering-pot, and, then, a few hours afterwards, dig down and examine the depth to which the moisture had penetrated, and compare it with an adjoining spot that had not been watered. The result would be a valuable lesson. Let the experiment be extended. Allow one portion of ground to become hard and crusted, and keep another loose and mellow. Examine the moisture in the soil six inches down, during drouth—the crusted portion will be dry, the mellow part moist and favorable for the growth of plants. Again, examine a portion of the soil which has been allowed to grow with weeds and grass, as compared with the clear and mellow part, and the difference will be surprising to those who have not before witnessed anything of the kind. Grass and other plants pump water up from the soil and scatter it to the air in the form of insensible vapor through the leaves, many times faster than it can evaporate from bare soil; and beneath the grass the earth will sometimes appear as dry as ashes, while that which has been kept pulverized will be found as moist as a wet sponge. Actual observation of these differences, requiring a few minutes occasional examination, will be more convincing than any amount of reasoning. It will show in a most satisfactory manner the importance of keeping the soil clear and constantly pulverized, both for retaining moisture and for favoring the ready extension of roots.

Some years ago an acquaintance set out thirty young cherry trees. Fifteen of them were occasionally and moderately watered, and the remaining fifteen were left untouched. The owner was much surprised to find that seven out of the fifteen watered ones died by mid-summer, and only two out of the unwatered ones. The truth was, the water which had been applied never reached half-way down to the roots, while it hardened the surface into a stiff crust, which is especially unfavorable to young and newly set cherry trees. If he had kept the surface constantly mellowed by repeated stirring, and had mulched the ground with grass or old straw for a few weeks at the hotest time of summer, the whole thirty trees would probably have lived and grown well.

As a general rule, mulching with pulverized earth would be the most convenient and best way to perform this operation, if well performed. If the top soil is kept completely pulverized, it has about the same mechanical effect as saw-dust or chaff. But soil becomes more quickly packed solid again, than either saw-dust, chaff or short straw, and very few cultivators can be induced to break it up fine frequently enough. Hence, in ordinary practice, the common mode of mulching with hay, straw, &c., succeeds best. A neighbor once made a banter with his hired man as to which should raise the most corn from a quarter acre. The neighbor hoed his piece once a week all summer, yet in spite of this frequent hoeing, the hired man's corn was much the best. He was puzzled for a time to account for it, until early one morning he found him at work at it—and then found out that he had hoed it every morning before his employer had arisen. It has been common to ascribe the increased growth of constant stirring to the absorption of ammonia from the air, &c., but the true explanation is undoubtedly the preservation of the moisture of the soil by the more perfect mulching thus afforded.

Use of Mules---Points in Judging.

I see by an advertisement in our city papers, that there is a large number of mules to be sold by the Quartermaster's Department at Washington and Nashville. Gen. Meigs, in his advertisement, says: "These animals are to be sold at public auction; they will not bring anything like their true value, and such an opportunity for farmers to get working animals will never occur again."

The amount these animals have cost the government varies from one hundred and twenty-five to one hundred and eighty-seven dollars each. They were purchased in large numbers, and at much lower prices than a small number could have been bought by individuals for their own use. Those mules that have endured the hardships of from one to three years campaign, have proved themselves to be possessed of extraordinary constitutions.

The fact cannot be too deeply impressed on the minds of our Northern farmers, that there is nothing in the shape of working animals that can do the same amount of work in a generally variable climate, for as low a cost to the owner as the mule.

It would be worth the while of any person who has any doubts as to the docility, endurance or capacity for education of the mule, to inquire of a returned soldier, one who has been on the long and hard marches with either of our glorious armies, as to the use of which the patient mule has been, and the manner their part of the marches has been performed.

But one opinion can be given: they are the strongest animals for their size, will endure the most hard work, and get along with the least to eat or drink of any animal we use for work. Oh, you cannot kill a mule! I am sorry to say that this last is the idea of too many of the drivers the poor creatures have to control them. The impression that all mules are vicious has also happily exploded, as experience has taught us that among the tens of thousand mules in an army, it is but seldom one kicks or has any vice that has not been taught them. To teach a team of mules to guide perfectly with one line is but the work of a few days; a perfectly green team, one that has never been harnessed, is expected to take its place regularly in the train in less than one week after being first hitched up or harnessed. There are with mules, as with horses, all qualities, from bad to good: and in the purchase of an animal we should endeavor never to get one of an inferior quality; a good one at any ordinary price is cheap, and a poor one for nothing is dear.

Size is desirable, but by no means should great con-

sideration be placed upon height; it does not constitute size proper, although the purchases for the army were based upon the height of the animal. Let your judgment for a mule be in size as for an ox, high from the ground to top of shoulder, but short legs. Beware of long-legged, slab-sided, small-bellied mules; they are not reliable. Look well to the size of the barrel or body of the mule; don't think you are choosing a running horse; a small body that becomes even smaller at the hind quarters, is not what you want, but rather look for a mule that resembles the best brood mares in shape of body or barrel; they have endurance, and are most easily kept. Being thin is no great objection; it rather assists in picking out the form of body to build upon.

Much information as to the character, disposition, &c., &c., of the mule, can be gained by noticing the way its head and ears are carried, both when in and out of motion. A fine mule will carry a high head with ears in motion—is very quick to see and hear all that is passing.

As in the horse, blood will tell; the imported or half-breed Black Spanish Jack will always leave his impress on his offspring, as will others of more humble origin. The mule from the imported jack can be discovered as quickly and with as much certainty, as a colt from a thorough-bred stallion.

The legs of the mule should be broad and thin; like a fine blood horse, the joints should be uncommonly large in proportion to the legs. The objection of the legs being too light, I have never known to hold good with mules if they were wide. The most durable colors are black, brown, grey, dun, spotted, including roans and sorrels. This is quite a question of fancy, as many persons prefer one above the other; for work there is about the same general difference as in the horse, except the black mule seems to have as good eyes as any other color. The hoofs of most army mules are suffering from a very common disease among horses in our best stables, contraction of the heels. It is as easy to cure this disease in the mule as in the horse, if you can make the blacksmith take sufficient interest in the animal, and not think because it will not show lameness, it therefore does not suffer.

Much good to both classes of animals, and a great saving to owners would occur if the use of the Good-enough horse shoe, or some other of equally good kind were more generally introduced. I have already given in a former article the relative value of the mule and horse for work for a term of years, and recommended to our northern farmers the use of the cheapest and best animal for farm work.

Further, it should be understood that mules are good animals to drive in carriages for pleasure as well as work. They are neither bad looking or bad drivers, and are used by many persons of wealth and taste in this city, because of their ability to endure hard driving on hard roads: 6 to 10 miles an hour is considered a good gait for a pair of driving mules. If good driving mules are wanted, don't use a whip about them; never let them become accustomed to a continual touching up.

Public opinion in the north is opposed to the use of mules. John Quincy Adams said, "Opinion is the queen of the world; it gives motion to the springs and direction to the wheels of power." Can we overcome that foolish opinion or prejudice, or must we bow to the power and give up the use of a valuable animal? This is a question that the farmer must answer for himself, and I feel assured we are not so far behind our southern brothers in even one thing that we cannot make good use of their most successful means of labor. R. S. I. *Nashville, Tenn., June* 10, 1865.

BUILDING CELLAR WALLS.

Is there any advantage in having a stone-wall against a bank, laid in mortar, or is it sufficient to have it pointed in front? Are tile under the wall better than small stones, and if so, how should they be laid so as to support the pressure of the wall? Should the wall be erected perpendicular or incline towards the bank, and why? Being about to build a wall some seventy feet long and seven feet high, against a bank of earth, I should like some information on the subject. R. G.

A sloping bank of earth will maintain its position or slope when it rises one foot to every foot and a half horizontally—that is, a bank seven feet high must extend ten and a half feet horizontally to keep from crumbling or falling. This rule varies somewhat with different soils, but not greatly. Every earth bank steeper than this, must be therefore protected by a wall, and the more vertical the wall the thicker it must be. Ordinarily about two feet in thickness of well built wall, is required to sustain a perpendicular bank of earth seven feet high. A solid wall laid in good mortar is of course much firmer than one laid dry and pointed.

All cellar walls should have a dry foundation. Ordinarily it will be sufficient to cut a trench as wide or wider than the thickness of the wall, fill it with small or broken stone, laid snugly and rammed down compactly, to build the wall upon. Good drainage is essential, and the addition of tile is only required when the flow of water is copious.

"An Old Housekeeper" sends Messrs. Tucker a receipt for Tomato Soup. As it is so simple, it is within the reach of almost any one; and if the gentlemen will try it *first*, they will be satisfied of its goodness.

Will they obtain an answer to the following questions:

The best receipt for what is called *milk rising* bread: What quantities of milk, water and flour to be used? Whether kept in *hot* water? *How long* and what temperature it should be to make the bread rise? What is the cause of its turning acid before rising? Any information through the valuable "Country Gentleman" will be thankfully received.

"An Old House-keeper" has receipts of her *own* for Green Corn Soup, Fritters and Puddings, if wanted.

[We shall be pleased to receive these recipes, and hope some of our House-keepers will furnish the information desired by our correspondent.]

Tomato Soup.

Wash clean 12 or 16 tomatoes, according to size; put them in a pot with two quarts water and two onions; let them boil tender; rub all through a hair sieve; wash out the pot, turn the liquor back. Wash two-thirds of a cup of small sago, add it to the soup; season with pepper and salt; boil 25 to 30 minutes. Toast a couple of slices of bread; cut them each in small pieces and put them in the tureen. Just before taking up the soup add a small pinch of Cayenne pepper. This will make two and a half quarts of soup.

Vermicelli is also very nice instead of sago. If a soup stock is on hand, it can be used and make a richer soup. It *should* be as thick as pea soup.

Boston. An Old House-keeper.

Don't be too severe on yourself and your own feelings; keep on, don't faint, be energetic to the last.

GROWTH OF TREES.

It is often a matter of considerable interest to know the size that ornamental trees will attain in a given number of years. When in ground kept well cultivated, they generally grow at least twice as rapidly as in uncultivated ground, until they become quite large, when the difference is less. During a recent visit to the former residence of the late David Thomas, (which for the past fifteen years has been much neglected,) we made the following measurements—the trees mostly growing on heavy land, in some places wet, and standing where the ground had never been accessible to cultivation—and planted about thirty-five years ago. Under other circumstances, they would probably have attained a much larger size :—

Norway Spruce, 45 feet high, spread of branches 27 feet, diameter of trunk 16 inches.
Silver Fir, 35 feet high, spread 21 feet, diameter 15 inches.
Locust, 22 inches diameter.
Red Cedar, 10 inches diameter.
Horse Chestnut, 11 inches diameter.
Arbor Vitæ, 11 inches diameter.
Virgilia, 12 inches diameter, (ground cultivated some years.)
Catalpa, 13 inches diameter.
Kentucky Coffee, 14 inches diameter.
Honey Locust, 16 and 17 inches diameter.
Elm, 25 inches diameter.
Breda Apricot, 10 inches diameter—healthy.
Black Apricots, smaller, but sound and healthy.

FRUITS FOR SANDY SOIL.

EDS. CO. GENT.—There are many from more northern locations, constantly arriving and settling in this part of New-Jersey. The sandy soil is new to the most of these, and varieties of fruits which were healthy and profitable elsewhere, might not be so here. We (readers of the Co. GENT.) want a list of fruits, especially apples and pears, particularly adapted to our soil and climate. J. R. ROGERS.

Vineland, N. J., July 2, 1855.

As a general rule, most varieties of fruit do well on such soils as will raise good corn and potatoes, while the kind of soil in other respects is a secondary consequence. There are, however, some sorts which are found to do well on light soils, when other sorts do not succeed quite so well. We cannot furnish a complete list of these, but among others, we have observed the following as succeeding well on sand or gravel, possessing sufficient fertility to produce good farm crops :—

Pears.—Beurre d'Amalis, Washington, Osband's Summer, Skinless, Bartlett, Onondaga, Buffum, Howell.

Plums.—Schenectady Catharine, Imperial Gage, German Prune, Monroe Gage, Lombard, Washington.

Nearly all the varieties of the apple, cherry and peach grow well on good light soils.

THINNING FRUIT.

Few owners of fruit trees will be apt to consider any advice under this head as applicable the present season, the crop being mostly a very light one. There are some trees, however, on which the fruit might be thinned to much advantage. Many trees are allowed to bear in ordinary seasons, from four to six times as many specimens as accords with their full and perfect development. The fruit is consequently small and deficient in flavor. This is the very year to learn a lesson on this subject. If the trees bear but few specimens comparatively, take off all the scabby, wormy and defective ones, which will be of no value in any event, and the crop which is left, having plenty of room, will show a size, beauty and perfection that cannot fail to convince cultivators of the advantage of thinning. We have heard a skilful orchardist assert that by taking off two-thirds of his peaches, the remainder increased so much in size as to give the same number of bushels as without thinning, while their improved appearance and quality enabled him to realize triple the price.

It is an easy task to thin out the fruit of an orchard, and is a positive saving of labor—inasmuch as it is easier to remove the fruit when it is small, and requires no care in picking and handling, than to do it when the specimens become full-sized at maturity. For example, if a tree bears at first three thousand specimens, it is easier to take off two thousand when they may all be thrown into a single basket, than to pick this same two thousand afterwards with all the care required in careful handling to prevent bruising. One great advantage in gathering large, fine specimens, over small and imperfect ones, is the greater rapidity with which they may be taken from the tree.

[For the Country Gentleman and Cultivator.]

A New Enemy of the Peach

MESSRS. EDITORS—The cause of the difficulty with Hale's Early peach, mentioned by your correspondent "Buckeye," (page 14,) is a worm about three-eights of an inch long, which bores in the growing shoot.

I first noticed its effects in 1863, but did not then know the cause. This year it has proved very destructive, and in searching for the cause I found in the tender point of the growing shoot, a worm which resembles the *leaf-roller*, but of a darker brown. Their season of depredation lasts about a month after the putting forth of the leaves. I have only two varieties affected seriously by it, the Hale's Early and a Yellow Rareripe, sent out from the Cleveland nurseries. They are decidedly the worst on the Hale's Early. In many instances the entire shoot of last years' growth was denuded, leaving nothing to sustain the fruit.

During their depredations the trees were infested with a slender black fly, nearly half an inch long I thought the worm might be the larva of this insect. Will some entomologist answer? In looking for the worm, find a shoot that is just wilted and cut crosswise. In dead shoots the worm is not found

St. Joseph's, Michigan, July 8. J. A. DONALDSON.

[For the Country Gentleman and Cultivator.]

THE AGRICULTURIST STRAWBERRY.

A correspondent inquires of your readers their experience with this berry. Last October I set an Agriculturist Strawberry in my garden, which soon commenced growing; covered it with sticks and hay in November, but found it dead in the spring. In April I set out two more apparently healthy plants; but the first new buds put forth were nipped by the frost—also the second. The plants then seemed to remain stationary for several weeks, having small leaves, less than an inch in breadth. They did not blossom or begin to send out runners till near the last of June,

while a bed of Wilson's, set in April, in the same garden, blossomed and fruited abundantly. If my short experience with these two strawberries entitles me to express an opinion, I would say that the Wilson strawberry at 75 cents each, is cheaper than the Agriculturist at one cent each, especially for this latitude.

Delaware Co., N. Y. SUBSCRIBER.

[For the Country Gentleman and Cultivator.]

Agricultural Forces of America and Europe.

MESSRS. EDITORS—By the study of the agricultural forces of America and Europe, their conservation and correlation, I find reason to believe that Providence saw from the beginning the time when steam would more than bridge the Atlantic, when hundreds of millions of the white race, the highest type of our species, should demand more soil and sunshine than Europe affords, and gave existence on this continent to agricultural resources equal to the wants of thousands of millions of mankind. The revolution of the earth from west to east serves to move tropical currents in the ocean and trade winds in an opposite direction, modified by solar heat developing the gulf stream, widely distributing rain and genial temperature, and laying the foundation broad and deep of man's last and greatest empire in the New World. Practically the sun is ever going from the east to the west with its light, its chemical and life sustaining rays, and the immeasurable force of its dynamical and agricultural power. Civilization has travelled in the same direction, not from choice, human wit or wisdom, but from natural laws above human control. Leaving out of view the resources of Mexico, Central and South America, and confining our attention to the physical forces applicable to agriculture in the United States and Europe, let us compare the advantages of the one with those of the other, and see which has the greater power to feed, clothe and elevate the human family.

The southern part of Florida is only 40 miles from the most westerly of the Bahama islands, and 70 miles from Cuba. It has so much warm water to the northwest of it, in the gulf, and such an exposure to currents of air and water from the equator, as to possess a climate equal to that of Central America and Brazil for the production of coffee. The seed of this useful plant may be cultivated as a staple crop on some five million acres. Europe has no climate that will ripen coffee or permit its cultivation.

Eight southern States returned cane sugar as one of their agricultural staples in the census of 1860; only three however need be named (Florida, Louisiana and Texas) to point to thirty million acres of sugar lands, capable of producing, with proper care and skill, as as many tons of sugar every year. But a hogshead to the acre will give more sugar than is now made and consumed, of all kinds, in the world. Had Europe the climatic force to ripen sugar cane, it would not grow the inferior sugar beet in large quantities for its saccharine juice.

Eight States are able to produce Sea-island cotton, and have at least twenty million acres adapted by climate and soil to the plant. At a half bale to the acre this land would yield more cotton than is known to the world's great commerce, at this time, of all sorts. North of the Sea-island cotton belt there is a much broader area adapted to upland cotton, of two hundred million acres, one half of which, planted in this crop, might easily be made to yield an average of a bale to the acre, or an aggregate of one hundred million bales. This is twenty times larger than the crop of 1859, as shown by the census of 1860. Had Europe an agricultural force of this power, cotton would not now be selling at forty cents a pound in gold in all of her markets.

I shall say nothing of tobacco and rice as compared with their cultivation in Europe, and pass to the notice of Indian corn, a cereal given to man by America. With about one-eighth of the population of Europe, the United States raise twice as much corn as is produced on that continent.

In the future, when population shall press on the full capacity of our climate and soils to support the human species, it is not too much to say that three hundred million acres will be yearly planted in corn, and give an average harvest of 60 bushels per acre. Such a harvest will supply eighteen thousand million bushels of this grain, and fodder enough to winter no small amount of farm stock. After devoting three hundred million acres to corn, and one hundred and fifty million acres to cotton and sugar cane, the United States will have five hundred and fifty million acres left for other purposes with a happy union of climatic force above and soil-force below, unequalled on the globe. In regard to this soil-force only a few hints can be given in this connection.

The Mississippi river drains about a million square miles of territory, whose watershed has generally a gentle descent toward the ocean. It receives in rain about 60 per cent. more water than falls on any equal area in Europe. A surface at once so broad, so level and abounding in water, is admirably adapted to the formation of large and long rivers, with bottoms of great width and depth of fertility. The same forces develop extensive intervals, rich and beautiful plains, like the prairies of Illinois and Iowa, Minnesota and Wisconsin. Tropical and semi-tropical heat and showers have developed not only plants and animals in great profusion, but that topographical condition of the continent best adapted to both natural and artificial irrigation and manuring. The Mississippi in high water, distributes the debris of plants, animals and minerals, the great conservators of agricultural force, over bottoms some 50 miles in width.

Has Europe any river that equals in volume and length, the number and extent of its affluents, and the breadth and richness of their bottom lands, "the father of waters?" Name the agricultural force in Europe equal to that which lifts water enough from the distant sea to fill the great Lakes of the northwest, and make the voice of Niagara proclaim forever the Divine power that presides over the fruitfulness of American soil?

America has agricultural advantages about which Europeans, and most Americans, know next to nothing. They are such as will soon draw a million immigrants to our shores from Europe every twelve months, possibly for centuries to come. Shall not these millions want food and raiment in all the future? Where are the best and most accessible farming lands to supply man's abiding wants? As yet land in America costs little more than air, water and sunshine, and now is probably the last good time to secure for a family a magnificent landed estate at a mere nominal price. D. LEE.

A NEW POTATO BUG.

FRIEND TUCKER—I send you by to-day's mail, a beetle which is very destructive to our potatoes in this vicinity. I first noticed it two years ago. It has increased rapidly, and is now on more than half the patches of potatoes. Later in the season last year, where they were numerous they ate the leaves all off the potatoes, leaving only the stems and stalks, nearly ruining the crop. The *bug* is about three-eighths of an inch in length, very thick, and broad; the shell of its back is striped, dark and light drab. It lays yellow clusters of eggs upon the under side of the potato leaf, which hatch soon into small, dark brown, thick clumsy bugs, [grubs] which feed fast, and grow fast, and have no wings until full grown. What is its name? What its remedy? SUEL FOSTER.

Muscatine, Iowa, June 17, 1865.

The pasteboard box containing these insects was crushed in the mail-bag, and all of them killed but one, who arrived in good order, alive and kicking,

after a railroad ride of more than 1,000 miles, from Iowa to Albany, and 180 more back to Union Springs. This depredator is the Ten Lined Potato Beetle, *Doryphora 10-lineata*, of Say. It is a thick, oval beetle, half an inch long, pale yellow, with five black stripes on each wing cover. The larva is pale yellow, with rows of black dots, and six legs on its breast, and a pro-leg at the pointed end of its body. Dr. Fitch gives a very full account of this insect, with an accurate figure, in his 9th Report of the Insects of the State of New-York, from which we chiefly derive the following facts. In was first discovered by Say when he accompanied Long's expedition to the Rocky Mountains, and was described by him in the Journal of the Academy of Natural Sciences, at Philadelphia. It was first noticed as a destructive insect in the Prairie Farmer in 1861, and the next year a fuller account was published in the Valley Farmer, by Thos. Murphy of Kansas, who states that they were so numerous that in a short time he had gathered two bushels of them. They appear to be confined at present to the Northwestern States, where they appear in immense numbers throughout the season, eating the leaves of the potato, and injuring or destroying the crop. There appears to be as yet no satisfactory remedy for them. Dr. Fitch thinks perhaps they may be collected by holding pans with an inch of water under the potato plants, and then knocking them in—afterwards killing them in boiling water, and fed to swine.

How to Make Poultry-keeping Profitable.

MESSRS. TUCKER & SON—I have many letters of inquiry as to the profitableness of raising poultry and eggs for market, and with your permission I will answer them through the COUNTRY GENTLEMAN.

From my many experiments, I have always found that with a basis of eggs at 20 cents per dozen, and poultry from 12 to 14 cents per lb., and corn at from 80 cents to $1 per bushel, and small grain in that proportion, that hens will pay a profit—(above the food they consume, and 10 per cent. interest allowed on all buildings necessary for their use as rent,)—of $1.10 to $1.40 each, where a large flock is kept; and in small flocks of 10 to 12 hens, $2 each is not more than they will pay above their consumption of food.

A flock of 100 hens, given a third of an acre of well-grassed land, with a building 40 by 15, 12 feet posts, making two stories—the floor of each covered four inches deep with a coarse gravel sand—with platforms under the roost to catch the droppings, and those droppings removed twice each week—with care that they have a good supply of vegetable, animal, and grain food—whitewashing the house twice each year, and renewing the sand twice—under such treatment they will pay a profit of $1.25 each above the food and rent.

As to larger flocks, they will pay as well in proportion, if cared for as well, keeping 100 hens in each house as described above.

I have no hesitation in saying, that with 10 acres of dry land, with twenty such houses as I have described, with two thousand hens one could realize a profit of $1,700 to $2,000 a year above the expense of food consumed, and the wages of one man and rent of the building.

Beside the above, if the land was set out with apple trees 33 feet apart, trees to be three years old when set, that at the end of five years one would have a nice young thrifty orchard, which would bear at least from one and a half bushels to one barrel of apples to each tree, and from that time continue to increase. There is nothing like the running of fowls among trees, which will so cause them to grow and do well, for I have tried it and know. In a previous article in your paper, I gave my experiment as to the effect of hens in orchards.

As to the selection of stock, one must be governed by the market he is to supply. In some localities, where eggs command a ready sale and at good prices, one would wish to keep the kind of fowls which would produce the most eggs in a year—or I perhaps should say, he should so arrange his stock that he would have a supply of eggs all the year round. A Hamburg and Leghorn will probably produce more eggs in a year than any other two breeds yet brought to notice; but the Brahma fowls will produce more eggs in the winter months than any other breed; therefore, to produce eggs throughout the year, one would do well to breed the three kinds if he was going to confine himself to thorough-bred fowls; but if eggs for the market is the object sought, I should advise the Brahma hens crossed with White Leghorn cock, for then you have good poultry and fine appearing fowls; besides hens hard to beat for laying eggs. Always, in getting the stock, breed Brahma hens with Leghorn cock, and not use eggs from the half-bred fowl for setting.

A cross of Hamburg hens with Black Spanish cock, will, as egg-producers, I think surpass any other breed or cross, but the poultry is inferior.

For thorough-bred fowls, I class them thus: Brahma, Golden-Penciled Hamburgh, Leghorn, Grey Dorking, Black Spanish, Chittagong.

For poultry, Chittagong, Brahma, Grey Dorking.

For eggs, Golden-Penciled Hamburg, Leghorn.

For poultry and eggs combined, Brahma, Leghorn, Grey Dorking.

Black Spanish for crossing purposes and for beauty.

Aside from the above fowl, I do not think any one will better him or herself to depart. In my experience they will pay a better profit than any I have yet bred, and I have tried them all as they have come on the stage.

As to the question in regard to rearing of chickens, I do not see as I can answer any better than to refer to my previous articles in your COUNTRY GENTLEMAN.

People are, it seems to me, taking more than an ordinary interest in the rearing of poultry. Whether they have been all this time finding out that if taken the same care of as other farm stock, they will pay a better profit, or whatever the cause, all I have to say is that God made nothing in vain, and that if parties in rearing poultry find an exception to the above, they will do more than your humble servant has yet done.

Natick, Mass. I. K. F.

ROADS SPOILED BY "MENDING."

During several recent rides, we have had occasion to observe the effects of "mending" on roads—the principal object being apparently to consume the labor which the law requires, in the easiest and most careless manner possible. In one place where the track had formerly been comparatively smooth and hard, a quantity of turf and muck had been unevenly spread upon it, and the subsequent rains had worked it into a stiff mass, intermingled with water puddles. The road had been "mended."

In another place, the horse scraper had been used in carrying good, hard earth on the rounded portion of the highway, but these heaps or scraper loads had been left unleveled, and the passing wagons were compelled to pitch and plunge over them, by placing numerous rails and fence posts on the smooth beaten track at the side—the object being to use the passing wheels of wagons and carriages to level the heaps. This road had also been "mended."

In another place, the highway had been made to cross a piece of low land, where from six to ten inches of the surface was black muck. To make a dry road, this muck had been scraped up into a turnpike, increasing its depth from half a foot or more to about two feet. The spring rains had worked this deep mass of muck into a beautiful bed of black mortar. Being hard for wagons to work through it, they had sought the ditch at the side where the muck had been scraped away, and left the hard subsoil. The ditch was thus make into a tolerably good road—the turnpike into an intolerably bad one—however it had been *mended.*

In another place, a similar turnpike had been made, but had been rendered harder on the top by successive additions of subsoil from the ditches. When dry, or during the first summer, this continued to be a pretty good road; but the following spring when the earth was soft, heavy teams cut through the surface or crust, and went down into the unknown depths of the black mud below.

Another road, made on a soil somewhat similar, was first constructed by placing a bed of large and irregular stones on the intended track, and then covering these with soil. This was a tolerably good road while the soil remained dry; but long rains working it soft, the wheels pass through to the rough stones below, and cause the rattling, jolting and pitching about, very satisfactory to those whose chief business was to break wagons and harness, and wear out horses. Yet this road, like the others, had been *mended.*

It would seem that intelligent men who make large sums of money every year by farming, and pay large revenue taxes, expend all their thoughts from morning till night in managing their own private business. At any rate, a few minutes thought bestowed on this subject would be sufficient to evolve the following truths:

1. The best material to make roads is that which is hard and free from large obstructions—such, for instance, as clear hardpan, fine gravel, or finely broken stone, with no large stone in them.

2. The worst material is soft muck and large stones mixed together—next, soft muck alone—next to this, sods, turf, ditch scrapings, &c.

3. The best surface is one that is perfectly smooth and sloping moderately to each side—having been so carefully leveled as to *invite* travel, and never requiring the compulsion of rails and timbers thrown in the parallel track to *force* teams upon it.

4. The worst surface is one which is made of unleveled heaps of earth intermixed with large stones—or one which is cut into ruts a foot or more in depth, into which the passing wheels must plunge and grind in their onward progress.

If the surface of the soil is mucky or tending to form mud easily, the best thing to do is to cart or scrape it entirely away from the highway, and spread it over the adjacent land. This is much easier than to draw a bed of gravel or other material a long distance to cover the muck. The first is accomplished by removing a surface of say six inches to a distance of three or four rods; the latter requires at least as great a depth drawn a long distance. The first leaves a solid bed with a soft stratum below; the latter gives a hard surface only or crust through which the wheels are liable at any time to cut into a mortar bed beneath. Some of the hardest and best portions of road we have ever met with, were where the top soil had been removed for other purposes; for this mode of obtaining a solid road-bed has been but very little practiced.

In all cases in the construction of good roads, we must adapt practice to circumstances. In some places the soil itself is just right, and needs only proper leveling. In others, it contains large scattered stone, every one of which should be carefully removed, as a single obstruction of the kind, thumped and battered by passing wagons for fifty times a day, the whole year, may do hundreds of dollars damage in the way of breaking, battering or weakening wheels. Other soils require the removal of the mucky surface as already explained. In other instances, neither the top or subsoil is good for roads, and gravel or broken stone must be drawn from a distance. We may continue these remarks in a future numbers.

BEE ITEMS.

From the Rev. L. L. Lanstroth's son I learn that owing to ill health, the new edition of his book, the "*Hive and Honey Bee,*" will not be published until some time next winter. I understand that much of it is to be re-written, and a large amount of new matter added.

If we judge from the demand for Italian queens last season, the apiaries of the country are becoming rapidly changed to the ligurian species. In the working season if an Italian queen is introduced into the hive of native bees scarcely a black bee can be found at the end of three months. The writer had one in which very few black bees could be found at the expiration of two months. If the queen is introduced at a season of the year when the bees perform but little labor, the process of change is much slower.

BEE FORAGE.—Last season the writer seeded one-half acre to Alsike or Swedish clover. The season was dry, and it blossomed but little. The seed caught good, and the plants endured our cold Wisconsin winter finely—though we had more snow to protect them than we usually have. It is prolific of blossoms and the bees have been laboring on it for two weeks, and it bids fair to continue in bloom two weeks longer. Very few bees can be seen on the white clover in the vicinity, but the hum of the busy worker is constantly heard during the day upon the Alsike. The native and Italian species resort to it alike. Its pleasant perfume can be discerned some rods away. L. L. FAIRCHILD.

Rolling Prairie, Wis., June 19.

Care of Fruit and Fruit Trees.

MESSRS. EDITORS—Having been a constant reader of your valuable paper several years, I feel bound to communicate some of the knowledge I have obtained by experiments and practical tests for several years, in regard to the care of forest and fruit trees. At the present time, when in almost every section you may travel, the sad spectacle of trees stripped of their foliage, and the appearance of a fire having scorched their limbs, it becomes all to do something to check if not to entirely remove the cause of this calamity. If all can be induced to make the effort, our success is sure; otherwise it can be only partially so.

The first thing, we must see that the insects are not actually harbored and fed by neglecting to remove all dead and superfluous bark. To accomplish this result, resort must be had to proper instruments. The common method of scraping the trees is attended with as much evil as good; the instrument used is suitable for the butcher's block, not for trees. The scraper I would recommend for trees, can be constructed from a cast-steel plate of the thickness of that used for garden spades. The form, instead of being triangular, should be a straight line on one side only; the second should be a convex line, and the third a concave line. The edges should be beveled something like a plain iron, but not to a sharp edge. With this instrument having removed all the dead bark, it will expose, if any there be, unsound places. In this case proceed to cut out all the rotten and decayed matter to the live wood; then apply a compost as hot as can be applied to the wounds: To four pounds of rosin, one pint of lard-oil, or a pound of tallow, sufficient to dissolve the rosin over a slow fire; then add five pounds of whiting, to neutralize the oil and make a durable substance; cook these ingredients until the whiting and rosin are thoroughly incorporated—leaving no sediment of whiting at the bottom of the kettle; then add lampblack to fix any color you choose, in colder climates more than in milder ones. This composition I have used for sixteen years, pruning my trees at any time; but in all cases applied this composition—also for grafting wax—has no equal. My trees are then ready for their dressing.

Take one bushel green cow manure, one peck of wood ashes, half a peck of lime, half a peck of flour of sulphur, one peck of hen manure, one peck of soft-soap for a barrel, with soft water; mix the ingredients well, and apply with a flat soft brush used in painting walls.

I have found the foregoing to be not only a good fertilizer, but also a preventive from attacks of insects, having none on my own trees.

Weston, Mass. GEO. SPARHAWK.

Do Strawberries "Poison" the Land.

I have read something to that effect, but cannot recollect where. Last fall I sowed a piece in my garden where strawberries had been, to turnips, which never advanced beyond their small leaves, nor had any sizeable roots, and I ascribed the difficulty to the chickens eating the tops. But this spring I dug that piece and the adjoining plot, in which there had been strawberries for two years, manured it heavily with barn-yard material, planted spinach, beets and onion sets. The spinach came up well, then stood still, though watered and again enriched, and after a long time went to seed without growing any higher. The beets were treated in the same manner, and now after six weeks apparent inactivity, are beginning to grow again. The onions did better, but are small and poor compared to what they usually are in the same soil. I can account for these vegetables not growing on good soil, well manured, only on the hypothesis of the strawberries affecting the soil deleteriously. R. G.

FEEDING RYE TO BROOD MARES.

MESSRS. TUCKER & SON—*Respected Friends:* Mr. KILLGORE of Missouri, in criticising my article in the Co. GENTLEMAN of May 25, would lead your readers to believe that I wrote ignorantly on the subject of feeding rye to brood mares. Perhaps I should have given them a word of caution as to its use; but if they had followed my directions, and gone no farther, they would have met with nothing but good results.

Mr. K. says if I should continue the use of boiled rye as I recommended it to get mares in season, they would always be in season, and never get with foal; that is very likely, but I did not recommend any such course. I only recommended it in that condition to get them in season, and as soon as they are served by the horse it should be stopped of course, but it may be used, as I recommended before, (mixed with other grain,) without damage. Grind two bushels of oats with one of rye, or mix it in the same proportion with shorts, or bran as millers call it, and it will do no damage to brood mares. I have taken nothing for granted in this matter. I have given my actual experience, and a course that has always worked well with me, and one from which I have never sustained a single bad result, I will unhesitatingly recommend to my friends. I have never owned but one mare that I did not succeed in getting a colt from, and have never had a mare miscarry. Last fall I wished to put a mare to a horse kept twenty miles distant from my place, and did not want to drive so far on a fool's errand; so I fed the mare boiled rye for five days, drove her to the horse and back the same day, making a drive of forty miles; she had but one leap, and is heavy with foal at this time. I could give many instances of this kind if required. H. C. W.

Glen Cove, June 27, 1865.

CURE FOR WITCH GRASS.

In a late Farmer you say that there are only three things that trouble you very much, viz., "sin, musquitoes, and witch grass." I will give you my experience in regard to witch grass. I first prepare a piece of land for sowing ruta bagas, cultivate between the rows as soon as I can distinguish the line to plant. I am dilligent and do not allow a blade of grass to rise more than 2 inches. When they are harvested I plow deep, and in three years there will not be a root of witch grass on the field, if the land is cultivated for that time in this manner.—W. G. *in Maine Farmer.*

CATCHING SHEEP.—Never seize a sheep by the wool on the back; it is very hurtful to the animal, particularly in warm weather, when he is large and fat. The best way to catch a sheep is by the hind leg or by the neck. The animal is easiest held by placing one hand under the lower jaw and the other back of its ears, and slightly raising its head.

HOW TO GROW ONION SETS.

EDS. CO. GENT.—Yours of the 17th inst. is received. In my article entitled "How to Grow Onion Sets," published in CO. GENT. of May 11, I have given briefly my own practice in raising that crop. To the questions of your correspondent J. A. D., to which you refer, I can say:

1st. As to time of gathering or pulling the sets, my practice has been to let them stand in the bed where grown until the tops die down to the bulbs, or when the bulbs appear to be ripe and stop growing. Then in dry, sunny weather they are pulled and spread out in the sun to get thoroughly hardened and dry. I experimented one season in pulling the sets when the tops were green, and lost nearly the entire stock. The experiment was made from what I had heard or seen somewhere, that they could be saved in this way, and would do well when planted.

2d. These sets are planted early in the spring, in rows from 12 to 14 inches apart, and from four to six inches from each other in the row. What we want is to get large, handsome onions that will mature early, so they can be put in market and command a good price. The sets are therefore raised one season and planted the next.

When *sets* are planted, nearly all the work of cultivation can be done with the hoe; but when the black seed is used, weeding by hand must be resorted to. Many persons who have gardens are not over-fond of weeding, and hence sets are always in demand. Top onion sets are extensively used for planting, but the onions raised from them are tough, thick-skinned and inferior. The kind I usually sow for sets is the Silver skinned. This variety of onions has a more delicate flavor than some other sorts, and is generally preferred for the table.

Mr. Bachellor, of Bachellor Bros., importers and dealers in seeds, at Utica, tells me there are some varieties of onions, the seed of which will not grow good sets, the onions grown from them running to stalk, and producing nothing but "skullions."

3d. I can see no advantage in planting sets in hills, as suggested by J. A. D.

A few days ago I was at Mr. Hayward's seed farm at Rochester, a brief account of which I give in the Morning Herald of to-day. Mr. H. grows onions and onion seed extensively. On one part of his farm he had a large patch of potato-onions. They were ripe and just ready to pull, and the yield appeared to be immense. He says they are an excellent variety for table use, good keepers, and what is still better, a very profitable crop to grow. One set or onion produces several; some large, and others smaller. The smaller ones are sold for seed at $5 per bushel. As they are very early, and have so many good qualities, it seemed to me they ought to be more generally cultivated. He had a large field of onions growing from the black seed. The seed is sowed by hand in drills twenty inches apart, and thickly in the rows at the rate of three pounds per acre. The plants are not thinned out. Those on the outer edge grow large, and the smaller ones command a ready sale at a large price. He says they are very profitably grown in this way.

Mr. H. had been making an experiment with gas lime, a note of which may perhaps interest some of your readers. An application to meadows at the rate of 30 bushels per acre doubled the crop of grass. He has been applying it to some extent on cultivated grounds, and for vegetables, and thinks its use will prove a great success. When applied in considerable quantities it kills quack or couch grass, and gets rid of it "root and branch," and the land next year, he says, is in good condition for a crop. Gas lime, we suppose, may be had in many places for the mere hauling away, and it may be worth while perhaps for farmers to experiment with it. In doing so however, one should "feel his way" at first, applying it in small quantities, and watch its effect.

The COUNTRY GENTLEMAN is among the most valued of our exchanges. Its nice white paper, large clean type, and varied contents, make it a model of beauty and intelligence—a perfect cyclopedia of agriculture for the farmer, and none should be without it.

Always wishing you success, I am respectfully, yours, &c. X. A. WILLARD.

Little Falls, July 18, 1865.

BAKED PUDDINGS.

MESSRS. EDITORS—Seeing a call in CO. GENTLEMAN for Baked Puddings, I send some we call good.

Baked Indian Pudding.

Seven tablespoonfuls of corn-meal, with molasses enough to wet it; pour on to it three pints of scalding milk; add butter size of an egg; when cool, add three eggs, teaspoonful ginger, little salt. Bake two hours; stir from the bottom twice while baking.

Nice Bread Pudding.

One pint grated bread crumbs, one quart sweet milk, yolks of four eggs, one cup sugar, the grated rind of one lemon, butter size of an egg. Bake nearly an hour. Beat the whites of four eggs to a stiff froth, stir in nearly a cup of white sugar, and the juice of the lemon. After the pudding is baked, spread jelly over the top, then the frosting, and bake until it is brown. It is very nice without the jelly, but better with it.

Steamed Rice Pudding.

Three pints milk, one small cup rice, one teaspoon salt. Steam three hours. Add while hot the yolks of two eggs, with half-cup white sugar; beat the whites with sugar, and pour over the top. Bake five minutes.

Lockport, N. Y. MRS. S. B. F.

ANSWER TO INQUIRY ABOUT BEES.

In reply to J. Lake's inquiries, CO. GENTLEMAN for July 6: There may be two queens or one. There are cases where bees remain in two colonies in the same hive, but they are rare. Their swarming again depends very much on the honey season—the more honey the more bees.

I would suggest putting under their hive a hive of 2,000 cubic inches, adapted for honey receptacles, to be put on after the top hive is removed; 50 to 75 lbs. of honey have been obtained in this manner from black bees. When the queen is lost or destroyed, the swarm leaves unless there are eggs and brood for one. Queens can be secured by spreading the bees on a sheet, taking her up with a few bees when found, in a small box, cage or tumbler, covered on gently poking them in.

Bees may be swarmed at any time with safety, when their conditions are right. The writer has practiced artificial swarming for several years, not allowing his own bees to swarm out at all. There are different ways to do it, depending somewhat on the style of hive used.

JOEL CURTIS.

FERMENTED FOOD FOR PIGS.

Does swill or other feed for hogs lose or add to its fattening qualities by letting it sour? F. O. W.

We have no recorded experiments of a definite and accurate character, to show the precise effect of fermentation on the food of swine. It is a common opinion of good managers that a moderate or slight fermentation does not injure it, and others believe it is positively inproved. There is no doubt that the process may be carried to an injurious extreme, inasmuch as vinegar contains little nutrition. The fermentation at any rate should be recent, as experience with nearly all animals shows that food in a good sound, fresh condition is better than than that which is old and injured. Farmers have adopted different mode of mixing grain with water for feed, but all agree that a great loss is sustained by feeding grain unground. Some have asserted that feeding meal dry has an excellent effect, and prevents the undue distention of a large dilution with water. A very successful manager, with whose treatment we are well acquainted, pours six parts of hot water on one part of ground Indian meal, and then allowing it to stand 12 to 18 hours, until the whole has swollen to a thick mass, when it is given to the animals. He finds boiling water better than cold for this purpose, but the mixture undergoes little or no fermentation. So successful is his management, that in connection with the selection of good breeds, and regular feeding and cleanliness, he usually obtains one pound of pork from feeding three pounds of good dry corn. He has not tried dry meal.

Another mode which has been much recommended by some English writers, is to mix the meal with water, and allow it to ferment a week or two, and mixing with sour milk or whey is esteemed as still better.

It would be worthy a series of experiments to determine which of these different modes is best. They would need to be carefully conducted, under circumstances in every respect alike, so as to avoid partial or one-sided results, and weighing or measuring would be indispensable.

BARREN STRAWBERRIES.

Last August I set out a large strawberry bed, and, thinking to have a prolific plat, I made the ground very rich by the use of compost manure. I kept the bed free from weeds, and the result was a crop of vines such as I never saw before, being nearly eighteen inches in height. Last spring they were covered with blossoms, and I congratulated myself on having enough, not only for my family use, but thought to supply some of my less fortunate neighbors. False, delusive hope! Not a berry is to be seen.

You made your ground too rich, says Mr. A. You worked in your vines too much, says B. Mow off your vines close to the ground, and you will have a greater yield next year, says C., &c. Now can you or any of your correspondents who are posted on strawberries, suggest the cause of and the remedy for my failure? In a small bed I made a year ago last spring, the result has been the same. AN OLD SUBSCRIBER.

Our correspondent has omitted to inform us what variety he planted, and whether it was not some worthless sort. It is barely possible that he has some pistillate, without a fertilizer. The Scarlet and its varieties and the Wilson are scarcely ever made barren by too fertile a soil, nor other sorts, if the plants are kept in hills and the runners constantly cut off. If our correspondent would plant the best sorts on poorer soil, and give proper cultivation, he would learn more in a single season by experience than by merely asking the advice of all the cultivators in the country.

The Growth of Young Timoer.

I want to tell my story, which I know to be true and perfectly correct, as all the parties are to me well-known and of unimpeachable veracity. The scene is in Berkshire Co., Mass. A boy reaped wheat in a field—that boy grew to be a man, and lived to the ripe old age of 82 years. Before he died, he sat in his chair and saw a neighbor of his from day to day drawing saw logs to the mill. This man drew, had sawed, and sold 152,000 feet of lumber, and all from 3½ acres of the ground upon which the old man when a boy had reaped wheat. The timber was mostly pine, some oak. I believe pine will grow as fast here as that. HAWK-EYE. *Keokuk, June*, 1865.

Management of Cows' Tails in Milking.

EDS. CO. GENT.—Some inquiries and observations have been made in back numbers about cutting off the tails of cows. I have heard but two reasons given for doing it. One is, that cows are not as liable to the disease sometimes called soaked tail, and its accompaniment *horn ail*. The other is, the annoyance of being switched and thumped while milking, especially when the flies are troublesome.

A year or more ago, I noticed in the Co. GENT. an article on governing cows by *moral suasion*. The writer claimed that he had influenced his cows by this system, so that they would not hook each other, and by the same system had learned them to hold their tails still while being milked. I have been looking for the article, but not finding it, I am obliged to write from memory. I tried moral suasion as well as I knew how, but have to acknowledge I did not succeed. So I tried another system, that succeeded so well that I gave up moral suasion, and have substituted compulsion; but my plan only works well where cows are milked while being in stanchions.

But to my plan: First, fasten a small ring permanently in the brush of the tail of each cow, tying it near the roots of the hair. Stretch a wire of suitable size the length of the stable, high enough to be out of the way, and about three feet back of the platform on which the cows stand. Then take a piece of stiff wire, form a long hook at each end, hook one hook in the ring, the other on the wire overhead, and the compulsion is complete. Of course the length of wire will be according to each one's taste—the shorter the wire the higher the cow's tail will be raised. When one cow is milked, the hook can be easily removed and applied to the next one, and when all are milked it can be hung on a nail against the wall out of the way.

I have been obliged to go somewhat into detail, but my subject is an *extreme* one, therefore requires an *extreme* remedy.

The first reason may be obviated as well by cutting off one or two inches from the end of the tail, saving the brush, as to cut off two-thirds of it, and spoil the looks of the cow, and deprive her of a protection that nature gave her. S. S. W. *Little Falls.*

A Beautiful Evergreen Screen.

We have heretofore noticed the fine evergreen screens growing on the grounds of Ellwanger & Barry of Rochester. On a recent visit to their place, one of these screens presented so fine an appearance as to deserve special notice. It has now been planted about eight years, is eleven feet high, four feet thick at the bottom, and running up in the form of a wedge, and is as straight and even as a solid wall of masonry. Such a screen, extending around a garden, would protect it from cold blasts, and probably be equal to two or three degrees of latitude in softening the severity of the climate. The Norway Spruce like the Hemlock, grows well in the shade, and this screen seemed nearly a solid mass of verdure throughout its interior. The Hemlock screens presented the same appearance when examined inside. But the Arbor Vitæ, Buckthorn, &c., which do not grow well in the shade, always exhibit nothing but bare stems and branches inside, however dense the foliage may be without.

Sending Insects and Plants by Mail.

We often receive specimens of plants and of insects that are broken or destroyed by a want of protection in the mail. Insects especially, unless in a stiff case, are almost sure to be reduced to fragments. Small insects may be inclosed in the barrel of a quill well stopped at both ends. Larger ones may be placed in small tin boxes, or paste-board will do, provided they are protected by a strip of tin passing around them horizontally, the breadth of which should be just equal to the height of the box. This stiffens the sides and prevents the top and bottom from being crushed together. Small tin boxes of any desired size, may be quickly made by any ingenious person as follows: Take a small piece of the thinnest tin plate an inch or two in breadth, about twice or three times as long as broad, and cut as shown by the dotted lines in the next figure, (fig. 1;) then bend up the

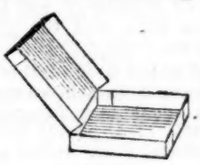


Fig. 2.

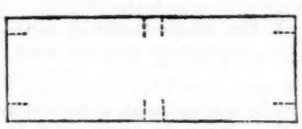


Fig. 1.

sides as in fig. 2, double over the last half, and the box is made with the lid attached, al lof one piece.

Specimens of plants, if quite dry when sent, are almost sure to crumble to fragments. The grasses are more tenacious than other plants. When any sort is put up too green or fresh, it becomes twisted and wrinkled. As a general rule, the grasses should be well pressed for at least three or four days before forwarding, and then will often come in tolerably good order, if merely inclosed in a sheet of stiff paper, with a long envelope, (the size used for legal documents.) It is better, however, to place them within folded paste-board. Other plants, after being sufficiently dried, should be invariably protected by pieces of paste-board on each side, or if sent by express, wood en boards or tin answer an excellent purpose.

Common instructions for drying plants, direct that the paper in which they are placed be changed every day or two, to fresh dry paper—each successive transfer causing the absorption of moisture from the plants. We have found a much better, easier, and expeditious mode in first placing the fresh plants within folded news-papers, and then giving them a moderate pressure for a day. The papers are then taken from under pressure, and spread on a floor or table for a few hours, with the plants within them, until the paper becomes dry. They are then returned to the press, and the same process repeated until completed. One great advantage of this mode is that the plants are not doubled or disturbed in removing from one paper to another.

TO PRESERVE FRUITS FRESH.

To begin properly, have a supply of cans or bottles, capable of being made air-tight. We prefer glass or common queensware, with openings large enough to admit of perfect cleansing. Tin rusts so easily that they in the end, prove least valuable. Have a large boiler in which the cans are to be set, in cold water, (if of glass or china,) and brought to a brisk boil before the fruit is put into them. A preserving kettle, in which to scald the fruit, and another to keep syrup hot in are necessary. For bottles, have corks that fit very tight, even after dipping in boiling water. Have a wide mouthed funnel to pass the fruit through, and a perforated ladle to drain it. A vessel of melted sealing wax should be convenient, and some bits of ice are useful.

Now take sound, ripe fruit, freshly gathered, prepare as if for the table. Prepare a kettle of syrup of the fruit if possible. When you are sure the fruit and syrup are boiling hot, begin your operations. Fill your cans while in the boiling water with fruit; fill up every crevice with boiling syrup. Close the vessel immediately and seal securely; smooth the wax with a knife and lay on a piece of ice to cool it instantly, and if you use tin cans, set them at once into cold water.

To seal up instantly in air-tight cans, sound, fresh fruits or vegetables while boiling hot, is the whole mystery of potting.

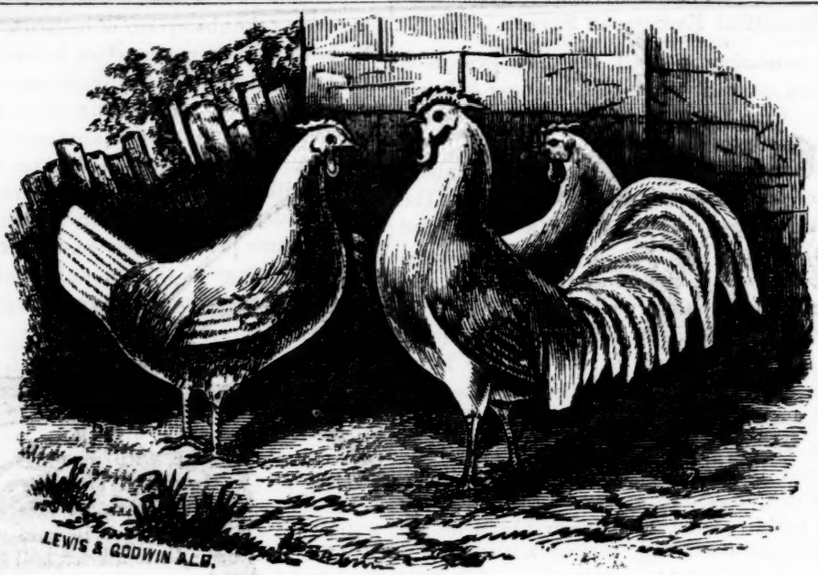
Two parts beeswax and one of rosin makes good sealing wax. Plaster of Paris, mixed to a paste, small quantities at a time, makes a good seal for pickles or preserves. We have seen our friends, the shakers, keep peaches in perfection in wide mouthed stone jars, over which a stout cloth dipped in beeswax, was snugly fastened.

Tin cans made when it was customary to solder up fruit, can be made very convenient by putting on them rings two inches deep, and one inch larger in circumference than the opening. A cork fits into the ring as into a bottle, and makes the can quite as convenient.

If your fruit keeps well, it will shrink from the mouth of the bottle; if in cans, they will show no signs of swelling, or may concave slightly. A cool, dry place is of first importance in keeping potted fruits, preserves, &c., and we reiterate light is the most active agent of destruction with which the housewife has to contend in any department. A HOUSE-KEEPER.

BEAN SOUP.

Take one pint of beans, and half a pound of fat salt pork, and put into four quarts of cold water. Let them boil slowly for four hours—then strain through a colander, mashing the pork and beans until all but the skins have passed through. Strain it through the colander a second time. Season with pepper and salt. Let it boil slowly another hour, and serve hot. If any is left, it is equally good the second day. It requires a good deal of seasoning.



WHITE DORKINGS.

THE WHITE ROSE-COMB DORKING.

The Dorking Fowl—its History, Origin, &c.

Of the origin of the Dorking breed of fowls, little is positively known. "We believe," says the author of the English Poultry Book, "that the fowl now known as the Dorking, might be much more correctly designated the *English Fowl*. This opinion is founded on the probability that they are either lineal descendants, of course with various intermixtures, from those which our British forefathers bred at the time when they first became intimately known to the Romans; or that they are similarly descended from fowls introduced by those conquerers of our island. From Cæsar we learn that the Britons had abundance of cattle, and that among the animals which they had domesticated, were hens and geese, which they merely bred for pleasure, the Druidical religion forbidding them to be employed as food.

"The pure Dorking fowl," said Mr. Martin in his work on poultry in the early part of this century, "has become extinct, or nearly so, in England." That the White Dorking had become exceedingly scarce in Dorking and its vicinity, is evident from the fact that in 1845 none were to be obtained, unless of a mongrel breed. The old white sort were altogether bred out, and the Grey and speckled varieties are now all the rage, and altogether are perhaps the best barn-door fowls in existence.

The colored Dorkings, by many persons are not considered thorough breds. The only color which is thrown by thorough-bred Dorkings is white plumage, with white bill and legs, with a supernumary hind toe. The hind toe has a peculiar form and shape in the thorough-bred White Dorking which are not shown in the colored.

"The most valuable variety of fowls," said Main, "for the table, is the Dorking breed. This is pure white, and highly esteemed for whiteness and delicacy of flesh, when served at table; they also fetch a high price in market. Color is no criterion of purity. Both the cocks and hens are usually short-legged, thickly feathered, having fine, delicate heads, with single, double, or large flat rose-like combs, which when they are in health, adds very much to their appearance, particularly if seen in the light rays of the sun."

After speaking of the good qualities of the Speckled Dorkings, Mr. Dixon says, "With all these merits they are not to be a profitable stock if kept thorough-bred and unmixed. Their powers seem to fail at an early age. They are also apt to pine away, and die just at the point of reaching maturity, particularly the finest specimens, that is, the most thorough-bred are destroyed by this malady. These and a few other apparently trifling facts, seem to show that with the Speckled Dorking the art of breeding has arrived at its limits."

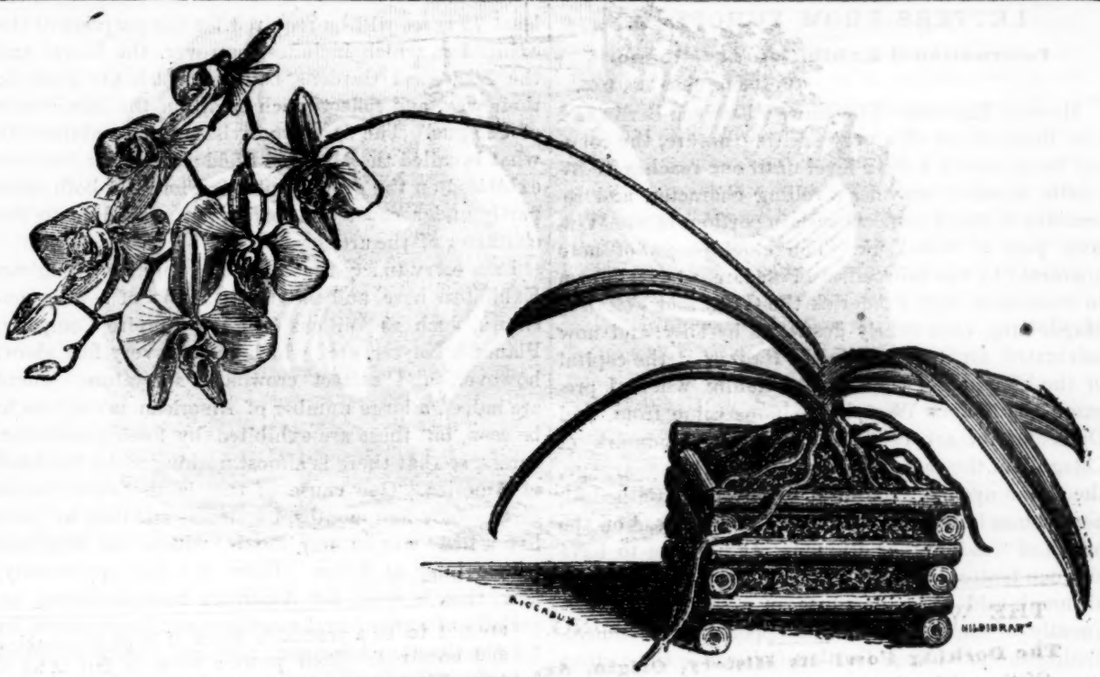
In the London markets, fowls with white legs and five toes would always find purchasers, on account of the well-known richness and flvor of the flesh, whatever might be its size, whether caponed or not. And as large fowls command much larger prices than small ones, the breeders have been induced to increase the size of the fowls, retaining as much as possible those characteristics, viz., the white legs and five toes, even at the risk of sacrificing the good qualities of the flesh. For that purpose the Chittagong fowl has been used to cross with the White Dorking, on account of the near resemblance of the color of the legs, and the great weight to which the Chittagong fowl attains.

Of the White Dorking, figured at the head of this article, so popular and so much valued in this country, Mr. Nolan of Dublin, does not speak very favorably. He says, "A very handsome little bird, purely white, but better calculated for ornamental than useful purposes—being to the colored Dorking as the Bantam is to the ordinary fowl. They are furnished with the supplimentary toe, but can bear no comparison as to value in any respect; the cock's weight is about four pounds, and the hen's about three pounds; the cock stands about fifteen inches high, and the hen about thirteen." We have seen White Dorkings answering the above description, said to be of Dr. Wight's stock, and yet we were assured that the doctor had a pair about two years old which jointly weighed about fifteen pounds. There is no doubt, however, that the colored Dorking is much the largest bird.

"I prefer," says a correspondent, "the White Dorking before any other breed known in this section of the country. They have all the good qualities in full which other breeds possess only in part; they are hardy, handsome, prolific, easily reared, and when brought to table are food for the most fastidious epicure."

Dr. Wight says: "that the Chinese possess a race of fowls which have the fifth toe as fully developed as in the Dorking, is proved by the fact that I have in my possession a pair which were sent from Nankin as choice specimens, having a snow-white plumage, and other characteristics of the true Dorking. The plumage, toes, the shape and color of the eggs, lead me to believe the Dorkings originated in that country."

C. N. BEMENT.



THE ORCHIDS---Phalænopsis grandiflora.

Of the extensive family of Orchids, our cut represents one of the finest, the large-flowering Phalænopsis. These plants form a most attractive feature in the Greenhouse, from their odd forms and singular beauty. They are originally brought from tropical regions—the one here illustrated coming from Java. The engraving shows it at one-fourth its natural size, with the exception of a small part of the stem, taken out for economy of space. Its leaves are somewhat fleshy and rigid; its flower stem, gracefully bending, bears from six to ten large blossoms of pure white. The *labellum*, or odd petal, is of a very curious form, with two side lobes turning inward, while the intermediate one, broad at its base, ends in two long twisting threads. The lower part of the labellum is striped with red and yellow, and the threads are of the latter color.

Two other varieties of this species have been introduced—the *P. amabilis*, which resembles the *grandiflora*, but of smaller flowers,—also the *P. equestris*, originally from Manilla, a variety with rose-colored blooms. The culture of all orchids, being among the nicest departments of green-house practice, we do not enter upon it here.

A Silk-Producing Insect in New-England.—Our attention has been called to an article contributed some time since to the Buffalo Express, by a correspondent who spent last winter in Massachusetts, and who claims to have good authority for the statements he makes. He says:

"Some six years since a French gentleman, who was preparing a work upon American Entomology, suspected that certain cocoons which he found, in the woods, might be silk. In a quiet way he has reared the producing worm, and studied its nature and habits, every year since. The moth proves to be the Polyphemus of Harris. It has been long known, but not as a silk producer. Harris, in his Insects, has figured the moth, and describes it as expanding its wings from five to six inches. It feeds upon the leaves of the forest oaks and birches of New-England. Its extreme range is yet unknown. The gentleman referred to has found its cocoons at short intervals, the whole distance from the Hudson river to the White Mountains of New-Hampshire. This renders it probable that the worm prevails throughout New-England, wherever its food is found; and we may fairly infer that it also inhabits the eastern part of New-York; although we do not find it mentioned by Fitch. Quite possibly the worm has a still wider range. The cocoons of this worm have been reeled, and the silk woven; and we were assured, by those familiar with the fabric, that it is both strong and beautiful. We could not obtain a specimen of it; but through the kindness of a lady friend in Boston, we procured one of the cocoons, which we now have. It is a diminutive sample, however, but little larger than those of the Chinese worm—though usually they greatly exceed these last in size."

He adds that there was some difficulty at first in winding the threads from these cocoons, owing to the fact that their adhesion is not dissolved in water alone, whether warm or cold—a difficulty subsequently overcome, however, by the use of chemical agents. "This worm is a native of New-England, and therefore requires no acclimation; nor is it subject to diseases such as would follow upon its transfer to uncongenial realms. Its food is the leaves of forest trees, that are both native and abundant." The average length of silk obtained from the silk-worm cocoon has been stated at about three hundred yards; in the experiments thus far conducted with this "American Silk-Worm," the average has been 675 yards. Of course the writer indulges in very glowing anticipations as to the future results of the discovery.

Blackberries.—Mr. JOHN C. COLLINS, Moorestown, N. J., sends a sample of what he calls the "Wilson Early Blackberry." It is described as a native of Burlington county. Mr. C. says: "Compared with the New Rochelle, it is as good a grower, and more productive. The fruit is as large, and of better flavor, commences ripening from five to ten days earlier than the New Rochelle, and yields its whole crop in about three weeks. The sample sent was grown in an old strawberry bed, the ground not having been cultivated for nearly two years, which makes them small and about five days late, but even now the bushes will yield one quart of ripe fruit each, the balance red, or nearly so. They will yield under ordinary culture, 100 bushels per acre. I planted out about five acres last spring, and intend planting 20 more next, all of this variety."

LETTERS FROM EUROPE—II.

International Exhibition at Cologne.

COLOGNE, June 7th, 1865.

MESSRS. EDITORS—The journey between Berlin and the Rhine is not of a very exciting nature, the country being nearly a dead level until one reaches Westphalia, where it assumes a rolling character, and resembles in many respects certain portions of the Western part of New-York. The chief places of note traversed by the railroad, are Potsdam, so well known in connection with Frederick the Great and Voltaire; Magdeburg, once nearly destroyed by Tilly, and now celebrated for its Sauer-Kohl; Hannover, the capital of the kingdom of that name; Hamm, where I presume the famous Westphalia hams come from, and Dusseldorf of art celebrity. The old landmark of Cologne, in the same position as it was 400 years ago, the Crane upon the southern tower of the Cathedral, next comes into view, and one is soon housed on the banks of "old Father Rhine." As I dislike to have any one treated with injustice, not even a corporation, although said to be destitute of a soul, and consequently of feeling, I take this opportunity of contradicting the prevaling idea that Cologne is the dirtiest city in the world. On the contrary, quite the reverse, as a friend of mine used to say—at all events, it is as clean as any other town which I have visited on the Continent—all the rest is merely a poetical license which has been taken with the place.

The morning after arriving here, I called on the U. S. Consular Agent, Mr. G. Holscher, who accompanied me to the grounds of the International Agricultural Exhibition, where I was introduced to several members of the executive committee, and provided with the necessary tickets, etc. On the afternoon of the following day the Exhibition was opened by the Crown Prince of Prussia, the ceremonies consisting of an address by the Ober-Burgermeister of Cologne to the Prince, and a reply by the latter; the representatives from different countries were then severally presented to him. After this a procession was formed, and took up its line of march through the grounds and buildings of the Exhibition, and finally the invited guests to the number of 300, dined together in the Winter Garden of the Flora or Horticultural Society of Cologne, which is a miniature edition of the Crystal Palace at Sydenham.

The Exhibition consists of five divisions: I. Agricultural Machines and Implements; II. Domestic Economy; III. Garden Architecture; IV. Forest Products and Implements of the Chase; V. Agricultural Products and Manufactures; VI. Geological Specimens. The Catalogue comprises 164 closely printed pages, and a Supplement has just appeared of 67 pages more, to be followed, probably, by another, as it said that all the articles to be exhibited have not yet come to hand or been unpacked. The Exibition is to continue from the 2d of June to the 2d of July —just a month—which would be considered rather a long time in our country, but I do not know that it is too much for an International Fair. In a letter of this nature I can of course give very few details; but it would be impossible at any rate to convey upon paper an adequate idea of the richness and variety of the objects to be seen here. It is calculated that at least 75 acres will be required for the purposes of the exhibition, which includes, however, the Floral and the Zoological Gardens, both of which are gems in their way, and reflect much credit on the inhabitants of Cologne. The first two divisions are contained in what is called the Machine Field; the other four are exhibited on the grounds of the Flora—in both cases partly under cover and partly not, according to the character of the articles.

I am sorry to say that there are very few American Exhibitors here, and those principally of sewing machines, such as Willcox & Gibbs, Empire Company, Planer & Kayser, etc., which make a very fine show, however, and attract crowds of spectators. There are indeed a large number of American inventions to be seen, but these are exhibited by foreign manufacturers, so that there is almost nothing under the head of America. One cause of this is the short notice given—only four months, I believe—and then we have had a little war on our hands, which has kept our people busy at home. There is a fine opportunity, now this is over, for American manufacturers, especially of agricultural machines and implements, on the Continent. At present they are mostly supplied here from England, in addition to what they manufacture themselves, and it is a noticable fact that the leading English makers, such as Ransome & Sims, Clayton, Shuttleworth & Co., the Howards, Garrett, Bentall and others, are out in full force, and make a very imposing appearance. Fowler is also on hand with his Steam Plowing Apparatus, of which a trial was made on the second day of the Exhibition, and the intention is to have trials every day of the various machines. I wish there was space to describe some of the articles here, but I must reserve this for my Report to the State Agricultural Society. I will allude, however, to the collection of machines and models from Hohenheim, and also to a collection of 174 models of ancient and modern plows from Dr. Rau of Baden, both of which would be so admirable for the museum of an agricultural college.

This Exhibition promises to be a great success, and certainly its managers, among whom may be especially mentioned Messrs. Oppenheim, Asser and Rantenstrauch, have done all in their power to render the affair highly creditable to themselves and their country. I shall probably leave here to-morrow on my way up the Rhine, stopping at Bonn to visit the Agricultural Academy at Poppelsdorf, of which I will send you an account in my next letter. J. L. T.

SODA WATER POWDERS.

Will you please give me a cheap and good receipt for making soda water? There was one in your paper a number of years ago, that I thought was the best I had ever seen; my parents tried it and liked it well; it was cheap and good, and very little trouble, and made quick. It was lost by some means. If you will please republish it, you will oblige A SUBSCRIBER'S DAUGHTER.

We cannot find the receipt referred to—we therefore give the following directions for making soda powders:

The blue paper should contain 30 grains of carbonate of soda, and the white paper 25 grains tartaric acid. One pound of carbonate of soda, and 13½ ounces tartaric acid, will supply the material for 256 powders of each sort

Dissolve the contents of the blue paper in half a tumbler of water, stir in the other powder, and drink during effervesence. Soda powders furnish a saline beverage which is slightly laxative, and well calculated to allay the thirst in hot weather.

Triomphe de Gand Strawberry.

This fine variety still maintains its position for high value in most districts of the country, although in some places it is thrown out. Generally it is reported as doing best on strong or heavy soils. It needs, of course, high culture, and the cutting away of the runners—without this care it is a failure. On the whole, it has perhaps a larger vote for home raising, or for family use, than any other variety. Although not so productive as some others, some cultivators regard it as equal to any for marketing. An Ulster county friend says "my Triomphes are selling at thirty cents a quart, while Wilson's on the same days bring only sixteen to eighteen cents per quart. I shall sell upwards of $300 worth from half an acre." He adds accurate outlines of some of his large berries—not the largest but quite common, and we find them to measure fully two inches longest diameter. The Russells are nearly the same size.

ROTATION AND CLOVER.

For two years I endeavored to get clover to take, in oats, by seeding the clover when the oats was sown, but both attempts were complete failures—the object was to turn the clover under as a fertilizer for wheat. I have since cut off corn in the fall and sown the ground with wheat, using 300 lbs. "Phillips'" superphosphate to the acre, and in early spring seeding the ground with clover. The result has been very successful, having a fine crop of wheat, and clover taking well. My intention now is to mow the first crop of clover early, and plow under the second for wheat again, and seed with timothy and clover for hay and pasture, to remain in grass for several years. Now I wish to know whether you would recommend me to spread and plow under the barn-yard manure with the clover, or top-dress the clover in the fall after the wheat is cut? The land is good, and I fear that with clover and manure both for fertilizers, the wheat will lodge badly, which is the case with my present crop put in with manure only—no clover. My wish is to grow heavy crops of grass for hay and pasture, to be fed on the farm. The question is, whether after taking off a crop of corn, wheat and clover, and then turning under the second crop, the land without the manure, will bring another good crop of wheat and the grass take well. I am led to believe that for dairy farms it would be better to topdress the grass after the wheat is cut, which would insure good crops of grass. Please give me your opinion of this rotation. In this section the usual rotation is corn on the sod, followed by oats, and then wheat with the manure, seeded with grass. I think an oat crop exhausts the soil equally as much as wheat (many think more;) the wheat and straw are both worth more, and we know that clover will take well in it. The crops in this section perhaps never were more promising, if we except the appearance of what is called here the weevil in the wheat, which is destroying the grain to a considerable extent.

Chester Co., Penn.

If the oats are sown *thin*, or not more than one-half or two-thirds the usual amount of seed, the clover will commonly succeed well. A fine top dressing of some manure will always cause the clover seed to germinate better and grow more fully.

The rotation to be adopted must depend on circumstances. A soil suited to corn, oats and wheat, must be a strong and fertile one; or if not, manure should be applied for the wheat after the oats—one of the best modes of which is to apply it after the ground is plowed in autumn, and before the wheat is sown—the manure being finely pulverized for this purpose. The manure of the preceding winter worked down, or into compost heaps, answers an excellent purpose, and it also insures the clover crop the following spring. If the soil is naturally strong, this top-dressing is best deferred, as our correspondent suggests, for application in autumn to the last crop of clover.

NANKIN OR CHINESE SHEEP.

Eds. Co. Gent.—About one year since I gave my experience for the first year with *Nankin* or *Chinese* sheep, being the stock sent out as the *Pure Breed* by an advertiser in your useful and valuable journal. I at that time promised to give my second year's experience with the stock, which I will do in as short an article as I can make it.

1st. The Pure Breed do not prove themselves with me as hardy as the common sheep of our country. Lambs treated the same, and wintered with much younger fine-wooled stock, were much thiner at shearing time though seven months older. One aged ewe lambed under favorable circumstances in February, and lost a pair of twins, though crossed stock and other breeds dropped at the same time, lived.

2nd. Productiveness.—An aged ewe had two as above in ten months from previous lambing, and the other *imported* original ewe in fourteen months produced one small ewe lamb. Neither full blood yearling gave increase with half-bloods of same age; five of eight kept for breeding last year, produced lambs with four pair of twins.

3rd. Yield of Wool.—Weight of full-blood 16 months old, 41 lbs.; fleece of same, 1¼ lbs. Weight of fine-wooled ewe 11 months old, 41 lbs.; fleece, 5 lbs. Weight of half blood, 16 months, 80 lbs.; fleece, 3¼ lbs.—all clean washed on the sheep at the same time; no full-blood fleece weighed over 2¼ lbs. washed wool.

Early lambs being the object for butchering, I tried crossing the same number of as near equal quality as I could procure of large roomy ewes, to a Nankin, Leicester, and South-Down buck, and fed the ewes and produce together. From these I found full as many duplicates from the South-Down as the Nankin, and the largest proportion of single lambs from the Leicester. The bucks were all fully matured, with full mouths, and equal in order. I could see nothing in favor of the Nankins in hardiness, having lost about the same proportion of each cross.

The quality in the butcher's hands is decidedly in favor of the Nankins; from this cross all kill better than either South-Down or Leicester, and give a much larger yield per live weight than either of the other varieties, in some cases netting 20 per cent. more per carcase of same live weight. If early lambs for the butcher is the only object, I would recommend the use of a Nankin buck, but if for the permanent improvement of a flock, I should prefer the original were in some other State than Ohio.

I have tried this experiment for my own benefit, but if it will prevent others going to useless expense and trouble, I will be well repaid for my part, and hope you will be also for the space occupied in the paper.

J. T. Warder.

Springfield, Ohio, June 20, 1865.

INCREASED COST OF FARMING.

It is not in the increased cost of labor only that the expense of farm crops is so much increased, but the invasion of our land by various weeds, and the crops of grain by hurtful insects, has added immensely to the labors of the farmer, so much so that it promises to work a revolution in the system of farming in this part of the country. I hear farmers talk of giving up the plow almost entirely on account of the uncertainty of the grain crops, and the increased cost of their cultivation. The corn crop, our great staple, is becoming more precarious every year from the cut worm, and now also frequently by the "hunter weevil." And the increased labor of cultivation from "quack grass," who can tell? This grass is becoming prevalent very extensively, in cultivated land, and is damaging not only hoed crops, but also oats and wheat. The farmer stands aghast at the appearance of his cornfield, so recently plowed, now becoming as green as a pasture. If his land is moist, or it is a wet season, woe to his broken back and blistered hands. He honestly thinks he had better left his land in grass. It was yielding him some pasture, though it seemed to need plowing, as the grass crop was diminishing. And this brings me to the point of my observations. Most land needs to be plowed occasionally, in order to obtain the highest product of grass. A partial cultivation of it favors the growth of weeds and bad grass. So that we are shut up to the necessity of cultivating our land very thoroughly, or of letting it lie in grass permanently.

It is well known that if we cultivate the land as formerly, (which answered very well then,) Canada thistles, quack grass and white daisies are increased by it. A crop of corn followed by oats, and seeded just sets up these pests, and fits the land for their highest prosperity, especially if the grass seed fails to take well, as it is very apt to do, with oats. We are frightened at the increase of Canada thistles, and are obliged to use the scythe now where we used to pull a few with our leather mittens on, and I am led to ask what revolution in our system of farming we must come to.

In land adapted to wheat the fallow may be best, which gives an opportunity for thorough cultivation, and prepares the land for successful seeding, which is very essential. To this end, it must be a fallow in reality, and not a slight preparation by once plowing. I know it is expensive; but is there any other way? My experience indicates that the thorough way is the cheapest.

On those farms not adapted to wheat, but good for corn and other grain, it is a most important question for the occupants, what new course is to be adopted. I wish to inquire in behalf of a great number of farmers in our State, for the best security against the depredations of the cut worm, and for some method of so far eradicating quack grass, that it shall not materially damage the crops of grain and roots.

The English farmer rakes out the quack grass, for which he has an expensive and cumbersome imple ment. This would greatly increase the cost of tillage, which could be compensated only by valuable crops. What crops in this country would warrant such expense, except, perhaps, tobacco or some kinds of roots?

On all land easily tilled and naturally good for cultivated crops, it seems to be plainly indicated that the highest style of farming is the style which we must be compelled to adopt. On land that is difficult of cultivation, the chief effort should be to make the grass grow. The plow should be used only at intervals, necessary to the best conditions of the grass. I am sure that it will pay to cultivate land in the very best manner, for the sake of the grass crop only; and on land not adapted to winter wheat, it is an excellent practice to prepare the field in the very best manner, and sow only grass seed—a practice which has been frequently recommended in the Co. GENT.

It is, to prepare the land as for wheat, and sow plentifully of timothy in the latter part of August, and clover early in the next spring. This would give a good opportunity while preparing the ground to clean out all the noxious grass and weeds. The expense would be well met by a heavy crop of grass, and by a great improvement of the soil. N. REED.

Amenia, Duchess Co., N. Y.

Hedges as Fences for Banks of Streams.

The article on Hedges by Z. A. LELAND, p. 378, reminds me of an overlooked intention to tell, through the COUNTRY GENTLEMAN, how useful, and especially applicable as fence along streams, I have found the Honey Locust and the English Thorn. While the latter loses its foliage and becomes unhealthy in dry places, (dry air,) seemingly killed by winter, but really weakened by summer heat and drouth until unable to endure the winter, I find it most beautifully green and flourishing near water, and excelling all other shrubs in what Mr. Downing called "hedginess"—being erect, compact, of moderate height, very firm, not browsed by cattle, well armed, and elegantly beautiful in foliage. That it is so distasteful to cattle is greatly in its favor, as it requires less protection while growing, and an evidence of its character in this respect is that where I have it growing, troops of hungry town cattle pass along to and from their "short commons," and they daily brush leafy branches aside with their heads without biting them, while the common thorn, buckthorn, willows, and honey locust, are browsed close down to the old twigs. The English thorn comes up from seed sooner than the common thorn, so far as I have observed, and it seeds freely here.

In planting on a sandy bank of a stream, I have found the Honey Locust most enduring of the wetness and extreme dryness of the soil, and of its preoccupation by other roots. My ordinary fences being frequently injured by floods, I have planted all the low lines with Honey Locust and English thorn, and am much gratified at finding them so much easier grown, handsomer, and more effective than other plants tried. I find spring planting best for the Honey Locust. Some set in the fall did not grow uniformly.

Tyrone, Pa.

Vermont.—The Trustees of the State Agricultural College intend to decide the question of location at their meeting in August. Windsor, Rutland and Chittenden counties are wide awake, getting subscriptions.

The Fair of the Chittenden County Agricultural Society will be held on the 19th, 20th and 21st days of September. The Burlington Free Press gives a list of the premiums to be awarded, and remarks that in many classes they are higher than ever before.

CANADA GOOSE---*Bernicla canadensis.* Boie.

Our engraving is a capital representation of the Canada Goose. It owes its excellence to being copied after AUDUBON, that great painter of birds. Credit is also due to the skill of the engraver who has so faithfully performed his share of the work.

The Canada Goose is found near all the large western streams, the Mississippi, Missouri, and the lower part of the Ohio, being particularly favored by them. They also occur on Lake Erie, and on the more northern Lakes. It passes over a large portion of the United States in the spring and fall, during its migrations.

The Canada Goose has been frequently domesti cated, and many of our domestic geese have some of the blood of this species in their veins.

Labrador is an extensive breeding place for this bird. AUDUBON tells us that it makes its nest in some retired spot near the water, and among tall grass. It is formed of various kinds of weeds, and is quite a large affair, being raised from the ground several inches. AUDUBON was enabled during his stay in Labrador to make extensive observations on the habits, &c., of this bird, and has left us as a consequence a valuable record of its history, from which we extract the following vivid description of its courtship, which is exceedingly interesting:

"It is extremely amusing to witness the courtship of the Canada Goose in all its stages; and let me assure you reader, that although a gander does not strut before his beloved with the pomposity of a turkey, or the grace of a dove, his ways are quite as agreeable to the female of his choice. I can imagine before me one who has just accomplished the defeat of another male after a struggle of half an hour or more. He advances gallantly towards the object of contention, his head scarcely raised an inch from the ground, his bill open to its full stretch, his fleshy tongue elevated, his eyes darting fiery glances, and as he moves he hisses loudly, while the emotion which he experiences causes his quills to shake, and his feathers to rustle. Now he is close to her who is in his eyes all loveliness; his neck bending gracefully in all directions, passes round her, and occasionally touches her body; and as she congratulates him on his victory, and acknowledges his affection, they move their necks in a hundred curious ways. At this moment fierce jealousy urges the defeated gander to renew his efforts to obtain his love; he advances apace, his eye glowing with the fire of rage; he shakes his broad wings, ruffles up his whole plumage, and as he rushes on the foe, hisses with the intensity of his anger. The whole flock seems to stand amazed, and opening up a space, the birds gather round to view the combat. The bold bird who has been caressing his mate, scarcely deigns to take notice of his foe, but seems to send a scornful glance towards him. The affront cannot be borne in the presence of so large a company, nor indeed is there any disposition to bear it in any circumstances; the blow is returned with vigor, the aggressor reels for a moment, but he soon recovers, and now the combat rages. Were the weapons more deadly, feats of chivalry would now be performed; as it is, thrust and blow succeed each other like the strokes of hammers driven by sturdy forgers. But now, the mated gander has caught hold of his antagonist's head with his bill: no bull-dog could cling faster to his victim; he squeezes him with all the energy of rage, lashes him with his powerful wings, and at last drives him away, spreads out his pinions, runs with joy to his mate, and fills the air with cries of exultation."

These preliminary manifestations being over, and the pair having made their nest as described above, the female lays her eggs. These are eight or ten in number, and of a dirty white color, which soon become soiled by the feet of the parent bird. A specimen in the writer's cabinet measures 3¾ inches in length by 2 2-8ths inches in breadth In color it corresponds to the description given above.

[A. O.] J. P. NORRIS.

TURNIPS IN CORN.

MESSRS. L. TUCKER & SON—Some one in one of your late numbers is desirous of knowing the modus operandi of raising turnips in corn. As I have raised them in this way for the last three years, I think I can give him an insight of the matter in a very few words. I simply sow them in the corn after the last working, about the 1st of July—trying to have it come just before a rain, and I have had as high as 800 bushels in this way, and been at no expense further than the cost of the seed and the gathering them. You cannot sow too thin if you sow with judgment. I have this season sowed twelve (12) acres of corn, and shall put in 10 or 12 more with turnip seed. They will be fit to come off after the corn is cut up, and what are not worth pulling make prime feed for sheep, either in the winter or spring. Any one trying this experiment one year with anything like a fair result, will not discontinue it. I use the Red-top Strap Leaf turnip, thinking it does better in this way than any other. P. *Montour Co., Pa.*

Japan Lily.—Early in the season, Mr. JOHN DINGWALL, florist, of this city, received from the American Minister to Japan, Hon. R. H. Pruyn, a number of bulbs and plants, and among the former the *Lilium auratum*, which has flowered finely, and a sample of which Mr. D. left at our office last week. It was described as follows in a recent number of the Gardener's Monthly:

"The plant is about twenty inches in height; leaves linear lanceolate, half an inch broad and three inches long; corolla broadly bell-shape; three interior petals seven inches in length by three and a quarter in width; outer petals the same length but narrower, and spotted all over with a crimson red or brown; about two inches of the apex of the petals reflexed; stamens and pistillium prominent exerted; anthers one inch long, covered thickly with the bright cinnamon pollen. Up the center of each petal runs a broad stripe of clear bright lemon color. Added to this it is delightfully fragrant—something like a mixture of Tuberoses, Orange blossoms and Cape Jessamines, all mixed up together; and though (of course) I have not yet proved it, yet there is not the least doubt but what it is perfectly hardy, as every thing I have received from the same locality has proved as hardy as our native plants here."

This description is a very good one, and the flower is indeed magnificent. Its fragrance is too strong for a close apartment, and filled our office, with doors and windows all open, so as to be perceptible immediately on entering. It is in no respect an objectionable sort of fragrance, however. Mr. D. has little doubt of the entire hardiness of the plant.

SNOWY HERON---*Garzetta candidissima.* BONAP.

This beautiful species of Heron is to be found in Florida and Louisiana, in the winter time, where they are very abundant. It arrives in the north early in April, and gets to New-Jersey about the first week in May. From that time it is abundant along the whole coast, from New-Jersey to the Gulf of Mexico.

The Snowy Heron breeds in large numbers in the same spot, as they are an essentially social bird. WILSON describes a visit to one of these breeding places, which gives such a good idea of what they are like, that we cannot refrain from inserting it:

"On the 19th of May I visited an extensive *breeding place* of the Little White Heron, [the name which he gave it—J. P. NORRIS,] among the red cedars of Somers' beach, on the coast of Cape May. The situation was very sequestered, bounded on the land side by a fresh water marsh or pond, and sheltered from the Atlantic by ranges of sand hills. The cedars, though not high, were so closely crowded together as to render it difficult to penetrate through among them. Some trees contained three, others four nests, built wholly of sticks. Each had in it three eggs of a pale greenish blue color, and measuring an inch and three-quarters in length, by an inch and a quarter in thickness. Forty or fifty of these eggs were cooked and found to be well-tasted; the white was of a bluish tint, and almost transparent, though boiled for a considerable time; the yolk very small in quantity. The birds rose in vast numbors, but without clamor, alighting on the tops of the trees around, and watching the result in silent anxiety. Among them were numbers of the Night Heron, and two or three Purple-headed Herons. Great quantities of egg-shells lay scattered under the trees, occasioned by the depredations of the crows, who were continually hovering about the place. On one of the nests I found the dead body of the bird itself, half devoured by the hawks or crows. She had probably perished in defence of her eggs."

From quite a large series of the eggs of the Snowy Heron in our cabinet, we find that they measure on an average 1 6-8 inches in length by 1⅜ inches in breadth. They are of a pale greenish color, and are frequently covered with excrement.

[A. O.] J. P. NORRIS.

A HEAVY MILKER.—Mr. Chenery's imported Dutch cow "Texelaar" gave in six days—from May 27 to June 1, 441 pounds 7 ounces of milk—an average of 73¼ pounds per day. She gave in one day 76 pounds 5 ounces, or over 35 quarts

VALUE OF COWS' TAILS.

MESSRS. EDITORS—I wish to say a word in favor of letting the cow wear their tails as long as nature and good keep causes them to grow. For several reasons I think it bad management to cut off cows' tails, though quite fashionable in some districts. In many sections of Massachusetts and New-Hampshire, where the soil is poor and lacking the bone-forming materials, cattle have the bone ail, as the farmers call it; then of course the tail and horns show symptoms of disease; and many suppose that by cutting off the tail when young, it prevents this tail sickness, as they call it. But that is not it. I have lived in this place for fifteen years, and have never yet seen an animal that had bone ail in this vicinity. Yet they are plenty enough in some towns near by, where clover does not grow naturally in the pastures; but where white clover abounds in the pastures, the disease is never seen. Some years ago I bought some cows that had had their tails cut off, and with shame I confess I was weak-minded enough to cut off the tails of some heifer calves about that time. But I had not milked those cows a month before I made up my mind never to cut another cow or calves' tail off, if I knew what I was about. I now value a good long tail, that with the hair on, will touch the floor or sweep the ground, as many of mine now do, an inch or two, at a high price; for, besides the great comfort and convenience to the creature, it is really much more convenient to milk, as, if the cow is inclined to switch you, just put the tail between the knee and the pail, and you have no trouble: while a tail that has been cut off a few inches is just right to hit you in the nose or eyes every time and no mistake. Try the long tails, nature's full length, and never cut one off, but comb and wash them when needed. E. P. HAYNES.

Barre, Mass.

A DRESSY HEN.

I have a Black Spanish hen who demonstrates her feminality by frequent changes of apparel. She started in life black as a coal, except her face, comb and gills. Three years ago when she moulted she shed all her black plumage and became as white as snow, and remained pure white for two years. Last fall she commenced putting on black again, (the children said on account of the death of the old rooster,) and is now almost wholly returned to her original color. The few white feathers scattered through her plumage grow less daily. She has just raised and weaned a brood of chickens, and returned to her duties as a producer. The Black Spanish hens are close sitters, but very poor nurses.

C. S. L.

A DUCK AND SNAKE STORY.

L. TUCKER & SON—As duck raising is in the line of your paper, I thought I would give you a short history of how it was done in the Jersey pines.

A lady near Woodmansie, succeeded in capturing and killing a large pine snake, cut it open, and took out of it several eggs. The eggs were set under a hen and hatched out ducks—I think every one produced a fine healthy duck. You may think this strange and a snake story, but I have it from one reliable, and believe it.

Explanation.—1st. The snake found and swallowed the duck eggs—2d. Snake killed, eggs recovered and set under the hen. E. OLIPHANT.

New Lisbon, 6 mo. 29, 1865.

HORNED vs. POLLED CATTLE.

Why should cattle be bred with horns? This question is frequently asked, but no satisfactory answer is given. It is said by some that the horns are ornamental. If this were true it would be unsatisfactory to those who look mainly to utility and profit. The idea that the horns are ornamental seems to arise from our having seen but few cattle without horns. We have seen more sheep without than with horns, and hornless sheep seem to us the most beautiful. If we had seen only hornless cattle, we should be as ready to desire horns upon our horses for ornament as upon our cattle.

Others say horns must be of some use, or they would not by a Wise Creator have been given to cattle. These should consider that a Wise Creator has provided for the safety of all animals—some have weapons for defence, others capacity to escape by flight, others are provided with hiding places. Horns were doubtless given to cattle to enable them to fight. If our domestic cattle were (like cattle in their wild state) so situated as to be in danger from hostile attacks, their horns would be valuable for self-defence. But now there is no more necessity of fighting among our cattle than among our children. Burdening our cattle with horns for self-defence is like burdening a man with fire-arms who is traveling among Quakers. Cattle being brought into civilized society—into the dominions of peace—their weapons for war should be thrown away.

Some of the objections to horns upon our cattle are the following:

1. They are dangerous to man and beast. Few farmers have escaped the loss of a sheep, horse or colt, from the use by cattle of their horns; less have escaped injury to some animals by their use. We hear every month of injury by them or loss of life to the human race.

2. They are of no considerable value for any purpose; they are mere useless excrescences—mere burdensome offal.

3. The growing and wearing of them and supplying their natural waste are a draft upon the system, which either enfeebles the animal or requires additional food to keep his condition up to the proper standard.

4. They are an impediment to safe and convenient transportation to market in railroad cars.

5. Horned cattle require more yard and stable room than hornless ones. Hornless cattle herd and eat together fearlessly and familiarly like sheep.

6. The carrying about of the horns is a tax upon the energies of the animal equal to the same weight bound upon the head of a hornless animal. Weight can neither be lifted nor carried without expense; weight upon the heads of cattle is carried at the greatest possible expense.

Some of these objections may seem trivial, but if on account of any or all of them cattle without horns can upon the average be produced and delivered in the Eastern markets even fifty cents a head cheaper than horned cattle of equal merit, they are worthy of the attention of all stock-growers. If it shall be found that horned cattle delivered in the Eastern markets have cost from one to ten dollars a head, depending upon age and the size of the horns, more than if they had been without horns, then it is clear that as soon as the attention of stock-growers is called to the subject the polled cattle will begin to take the place of the horned, and will in the event supersede them almost entirely. A little time spent by a stock-grower in ascertaining the cost of the horns upon his cattle, will not be time spent in vain. A careful estimate upon what has been expended in keeping warm a pair of horns of ordinary size upon a cow twelve years old will be instructive. A change from the hornless to polled cattle might seem to involve the necessity of throwing away the advantage of the improved breeds. Upon reflection it will be seen that no such necessity exists. We may easily have our hornless Durhams, Devons, Alderneys, Ayrshires or Herefords, without depreciation from the original standard. A single dip from any of these improved breeds into any of the hornless families of England or France, is sufficient to lay the foundation of a hornless variety of any of these improved breeds. One family of the Durhams is the product of a cross between the Durhams and the Galloways, and this family is not inferior to others. Unfortunately absence of horns was not one of the characteristics sought by the breeder to be carried into the product of his cross. The well-bred polled cattle of England and France are but little if any inferior to what we regard as the most improved and valuable breeds. They are exhibited at all their fairs and cattle shows.

Those who have attempted to work off the horns from any of the breeds of cattle have been astonished at the facility with which it has been accomplished. An acquaintance of the writer of this article, who keeps but few cows, has endeavored to obtain hornless Durhams by using Durham bulls to a single hornless cow and her hornless descendants. She has now hornless cattle lacking only 1-16th and 1-32d of being full blood Durhams, and in appearance they are in no respect inferior to the full bloods. With hornless cows that have but a single line of hornless ancestry bred to Durham bulls, full two-thirds of his calves are raised without horns. A hornless bull from his stock has been used to horned cows for three successive years, to his full capacity, and of his get, amounting to hundreds, but a single one has had horns. This seems to be in opposition to the generally received opinion as to the natural result of crossing between animals of opposite peculiarities. A suggestion as to the causes of this result may not be amiss. Hornless cattle generally possess a more vigorous constitution than horned cattle, and the most vigorous of the parents is most likely to impress the progeny with his or her peculiar characteristics. Domestic cattle generally make but little use of their horns, and as a consequence they are not supported by the system in any great vigor or strength. As to the horns, the progeny is therefore most likely to follow the hornless side.

Horns upon cattle are either useless, dangerous and expensive excrescences, or they are of real value. The above has been written for the purpose of eliciting discussion among stock-growers and breeders who have had experience and given thought to the subject.

Lyons, N. Y. AN OBSERVER.

The noblest question in the world is, What good can I do in it?

THE CULTIVATOR.

ALBANY, N. Y., AUGUST, 1865.

☞ It is stated that more than the usual interest is felt in the coming State Fair at Utica, throughout the central counties. The exhibition of dairy products will be very large, and we are happy to learn, although no arrangement was made by which the Cheese Manufacturers' Association as a body should exhibit, that through the individual efforts of some of its officers and others, a show of perhaps a thousand cheeses may be fairly anticipated.

If other sections of the State do their part, and our best breeders, orchardists and florists, come out as we trust they may, all departments will be fully represented, and the Exhibition will be made to show whether returning peace is quickening our desire for improvement, as the high prices of the war have strengthened our hands for its attainment. The grounds and buildings we may safely assert, will be all that the public can demand. The means of reaching them will be far better than they were two years ago—the horse railroad having now a double track, while Mayor BUTTERFIELD has also arranged to license omnibuses and other conveyances to such an extent as may be requisite. With the favorable weather which has generally attended the movements of our Society, we may expect an attendance even larger than that of the past three or four years. And the more who decide, in going, to take with them something for exhibition, the more complete and instructive a display there will be of our agriculture and its products.

Improvement in Vermont Sheep.—A correspondent of the COUNTRY GENTLEMAN in Vermont, writes that there has certainly been much improvement in the Merinos of that State, as breeders have been able "to dispose of the poorest and retain the best." But this, he adds, "is the improvement of a flock, not of an individual sheep. Better shelter in winter, and higher feeding, have increased or enlarged the production of wool and of lambs. This is the improvement of keeping. Suppose A. has a dairy of fifty cows—ten 'cream-pot No. 1,' and ten whose milk resembles that which has been 'three times skimmed sky blue,' and B. a herd of the same, and both use one bull for five years. A. raises all the heifer calves from his 'cream-pots,' and gradually disposes of his poor cows; in five or ten years all his cows are 'No. 1.' B. sells his best and poor ones indiscriminately—at the end of ten years, A.'s cows will produce twice as much as B.'s; A.'s *herd* has been greatly improved, but there has been no improvement in any one of his best individual cows. So, much of the improvement claimed for the Merinos, is an improvement of *flocks* by better shelter in winter, and by better and more uniform feeding. All this is well, and should be encouraged and understood. But the 'blood which tells' must be gained by an admixture of better blood. High feeding alone does not make a better stock-getter—on the contrary not so good."

Plow Attachment.—Messrs. J. & A. Kilmer, Barnerville, Schoharie Co., N. Y., have patented a device or regulating a chain attachment to plows, so as to enable them to turn under and cover all growth of whatever kind, which may be standing on the soil. We witnessed its operation last week on a field thickly covered with a rank growth of coarse weeds, three to four feet high. Its success was complete, every particle of the weeds being entirely put out of sight by the furrow.

The Cornell University.—The offer of a donation by Hon. E. CORNELL of Ithaca, of $500,000 to found an Agricultural College, was conditioned, as our readers may remember, upon the donation by the State to the same institution, of the avails of the Congressional Land Grant. This fund had previously been appropriated to the "Peoples' College" at Havanna, on certain terms not as yet complied with. At its last session the Legislature passed an act giving three months longer for compliance, in default of which the land was to go to Mr. Cornell's University. The Regents of the University met last week to fix upon the sum of money they deemed requisite for the People's College to raise to meet this emergency. The limit of three months expires on the 27th inst. The remaining time for action is therefore short, and in order to settle upon a limit, it was thought a definite sum should be named. It was there fore agreed, that in order for the People's College to avail themselves of the benefit of the act of 1863, they must deposit for that purpose the sum of one hundred and eighty-five thousand dollars. Mr. Cornell was present, and assured the Regents that whenever the matter was definitely settled, he was ready to proceed with his proposition, and the construction of the Cornell University could be commenced at once.

Result of Irrigation.—A correspondent of the COUNTRY GENTLEMAN submits a statement as to an experiment in Irrigation carried out by a friend, who although a clergyman by profession devotes considerable attention to agriculture: "Some four years ago, I think, he bought eight acres of interval land, lying upon a small mountain brook, of so poor a quality that the former owner had been able to get only about three tons of hay from the 8 acres annually, though one year he did cut *almost* four tons or half-a-ton to the acre! The purchaser expended nearly $200 upon a system of troughs, dams, locks, gates, and pipes, with which, when completed, he could irrigate any rod of the whole surface ankle deep in water in a very short time, and this, too, from a brook which could probably all run through a trough 6 or 8 inches square without pressure. Now for the result—the first year he cut *eight* tons of hay; the second year, which was 1864, and very dry, he cut *fifteen* tons; and this year he expects to cut *twenty* tons! "His theory is that the water brings on to the land a great amount of vegetable nutriment, and also renders soluble and nutritious ingredients already in the soil in a coarse or solid state, and I think he is more than half right."

The Holmes Library.—The Editor of the Maine Farmer has proposed to the readers of that Journal, so long under the management of the late Dr. HOLMES, to contribute, in sums of $1 or over, to establish a library bearing his name, in connection with the State Ag. College. This would be at once a most appropriate memorial, and a gift of ever increasing value to the living, and we are glad to note that the proposition has been well received and is attracting considerable attention. Not only citizens of the State, but her sons who have found homes in other communities, should respond to the call, which has the endorsement and encouragement of the leading members of the State Board of Agriculture. We sincerely trust the project may meet with the large degree of success it so well deserves.

Albany and Rensselaer County Fairs. — The Albany and Rensselaer County Agricultural Societies are to hold a joint Fair this year at the *Island Park*, between Albany and Troy, on the 19th, 20th, 21st and 22d days of September. The arrangements for this Fair have nearly been concluded by the officers of the two societies, and we understand with entire harmony and satisfaction to all. The grounds selected for the exhibition are convenient and central for the two counties, and large buildings are to be constructed, and every thing necessary for the convenience and safety of the Exhibition, and pleasure of the public, will be properly attended to and arranged.

There is to be a common premium list for the two counties, and they are to share equally in all disbursments and proceeds of the Fair.

An invitation is extended to all the counties in the State to compete for premiums in every class and department, on the same basis and under the same rules and regulations as are now adopted by the Albany and Rensselaer County Agricultural Societies. The *premium list* is now in the hands of the printer, and the premiums offered are large and extended in all the departments.

This arrangement is giving general satisfaction to the farmers and agricultural men throughout the two counties, and we are assured by the officers of the two societies that no pains will be spared on their part to make the joint exhibition both attractive and profitable.

We commend this enterprise to the friends of agriculture in the adjoining counties, and hope that the Fair will meet with its deserved success.

American Institute.—The Managers of the Annual Fair of the American Institute having secured the spacious Armory of the Twenty-Second Regiment, on Fourteenth-street, in the city of New-York, will there hold an Exhibition from Tuesday, the 12th day of September, to Thursday, the 19th day of October next. The place selected is the same in which the Sanitary Commission held their great fair; its location is central and accessible, while the accommodations are ample for a large and varied exhibition. The Annual Fairs of the American Institute are held for the purpose of presenting to the public specimens of Skill and Industry solely of American Manufacture and Production. The Exhibition will consist of Machinery, New Inventions, Manufactures, and Agricultural and Horticultural products.

Illinois.—At the coming State Fair at Chicago, the following special premiums—of almost unprecedented liberality, are offered to competition—whether open to citizens of other States we are not informed:

Cattle—For the best Herd, 1 Bull and 5 Cows, of any age or breed	$500
Best Bull of any age or breed,	250
Best Cow or Heifer of any age or breed,	200

"Prizes" amounting in all to $2,600, are also offered for pacing and trotting horses, "mile heats, best three in five," which we should fear would operate to withdraw attention materially from the more useful parts of the Exhibition.

Note from John Johnston.—Mr. Johnston writes us under date of near Geneva, 20th July:—

"I see you get no reports of the crops hereabouts. We have the best crop of wheat in Seneca county, we have had since 1859. Barley that was sown quite early, I think may be good; the later sown was hurt by drouth, and ears short. Oats, so far as I have seen, were never better in my time. Hay a good crop, but I have seen better. There is a good part of the corn that looks bad, and some very good; the early planted by far the best. The apple crop is as near a total failure as it can be. I never saw the like hereabouts. We have early harvest apples, but no winter fruit. No peaches, or at least very few. Plenty of grapes, and some pears and quinces. We have had heavy rains of late, and very little wheat drawn; it will be badly damaged more or less, I have no doubt."

Importations.—A Staten Island paper mentions that Mr. R. W. CAMERON, a citizen of Richmond Co., now in England, has recently purchased at the annual sale held at the royal stables, Hampton Court, three yearlings and two others, bred by the late Mr. C. Greville, whose stock has always been so famous. They are of the blood of Bay Middleton, Knight of Kars and Flying Dutchman. Mr. Cameron has also purchased a number of valuable Short-Horns and Alderneys; and both the purchases of horses and of cattle are highly spoken of in the London Field. "We understand that they will shortly arrive, and that it is the intention of Mr. Cameron to convert his farm—well-known as the Camp Scott property—into a stock-breeding farm, where we feel confident fine cattle of all kinds will meet with a ready market and appreciating purchasers."

Massachusetts.—The Worcester County Horticultural Society, will hold its twenty-sixth annual exhibition of fruits, flowers, plants, and vegetables, at Horticultural Hall, Worcester, Mass., on the 19th, 20th, 21st and 22d of September, 1865. The premium list is as usual, a liberal and judicious one.

Ontario County.—The next Annual Fair and Cattle Show of the Ontario County Agricultural Society, is to be held on the Society's grounds at Canandaigua, on the 20th, 21st, and 22d days of September. Last year the exhibition continued only two days; but that arrangement worked less satisfactorily than was anticipated, and it has therefore been determined to return to the old plan and have a three days' performance, which, with the energetic management of the officers, and the abundant resources of the farmers of the county, is sure to be a success.

New-Jersey.—The Burlington County Agricultural Society will hold its 19th Annual Exhibition at Mt. Holly, Oct. 3d and 4th next. GEO. B. DEACON, President; Benj. Buckman, Secretary.

Hay Making---Hay Barometer.—The advocates of the earlier and later period of cutting grass have settled the question so far that the controversy is narrowed to the point whether it should be cut just as the blossoms unfold, or when the seed is matured. Now if the farmer commences haying at the first period, by the time he has cleared up all his meadows he will have just what he wants, earlier succulent grass for his cows and riper grass for his stock, and thus meet the views of all the controversialists.

On most farms in western Massachusetts the grass is cut just as the thistle down begins to fly, and I presume that otherwise noxious weed is allowed to grow so as to serve as a natural barometer by which hay makers can be surely guided! R. G.

Sales.—Mr. M. CASE, Avon, Ct., has lately sold the following Short-Horns: To Paoli Lathrop, South Hadley Falls, Mass., the cow "Rosalea," out of Tube Rose 5th, by Red Rover 2109; the cow "Rosalea 2nd," out of Rosalea, by Young Marmion 3602, and the heifer calf "Rosalea 3rd," out of Rosalea, by Berkshire Duke 2539.

Willow Peeler.—Geo. J. Colby of Waterbury, Vt., offers $10,000 for the patents covering the rights for the best willow-peeling machine that may be invented within three years from May 18, 1865.

Birds Prefer Insects to Fruit.—A correspondent writes us from Newark, N. J., that he is well convinced of this fact. He says: "Those who are fond of shade or fruit trees should spare the birds. We have cherries for them, and raspberries and strawberries, if they want. I noticed that many of the leaves on my apple and plum trees had been eaten by the caterpillars, but could not find enough of those insects to account for the damage; a fact which was explained when I discovered the young cowbirds catching them, at about the rate of one a minute—coming for the purpose within ten feet of the door where we were passing in and out, as tame as so many chickens. We have now no clatter from the robins that have their nest in the garden; they have dropped their song, and are busy attending their brood. The spotted thrush was as familiar, and as free with his song, all the spring, but now is silent. I suppose they, too, are brooding."

Wool Premiums.—In compliance with a resolution passed at the last State Agricultural Convention, the Ohio State Board of Agriculture offer the following premiums—with a view to ascertain the amount of shrinkage in unwashed wool·

For the heaviest fleece of scoured wool produced by a ram, $20
For the heaviest fleece of scoured wool produced by an ewe, 20

The fleeces to be sent in an unwashed state to the Agricultural Rooms in Columbus previous to August 1st, accompanied by a pedigree of the sheep which produced them, and an affidavit setting forth the time and manner of shearing in 1864 and 1865, that the fleece presented is the production of one sheep in that time, the weight of sheep after shearing, condition of the same, and manner of keeping for the past year. With the fleeces of ewes, parties will be required to state whether they have suckled lambs the present season; with aged ewes, if they did so in 1864. In making awards, due regard will be paid to the percentage of wool produced, compared with the live weight of the animal. The committee will carefully weigh and number each fleece, sending them to be scoured without the name of the owner. The awards will be made and the fleeces exhibited at the State Fair, Sept. 12th and 15th, after which they will be returned to their respective owners.

Subjects of Discussion.—The following topics are to be taken up at the next State Fair at Utica, and it is to be hoped that those attending will be prepared to join in their discussion:

1. *Tuesday Evening, Sept. 12th.*—"Ought Pastures for the Dairy to be kept permanently in Grass, or to be renewed by Plowing and re-Seeding?" X. A. Willard, Esq., of Little Falls, will open the discussion.

2. *Wednesday Evening.*—"Best time for cutting grass, and best method of preparing grass for hay." J. Stanton Gould to open the discussion.

3. *Thursday Evening.*—"Best method of cultivating and curing tobacco; lands best suited for its culture; its value as a crop." T. G. Yeomans, Esq., to open the discussion.

Cleansing Merino Fleeces.—The New-Hampshire Journal of Agriculture has made the following offer:

"The New-England Fair comes off at Concord the first week of September next. Now if the breeders of Merinos, South-Downs, Leicesters and Cotswolds in New-Hampshire, Vermont, and other New-England States, will send to us five fleeces from their several flocks we will have them cleansed at one of the best manufacturing establishments in New-England, and the cleansed wool, with its loss by shrinkage, shall be on exhibition at Concord in September. This proposition is open until the 15th of August."

From the last number, it seems that our contemporary is very much in earnest, and if the wool-growers do not care to accept the above proposition, the cleansing will take place all the same nevertheless:

We wait impatiently to hear from some of the owners of "crack fleeces," notifying us of their intention to comply with our proposition. If we don't hear from such soon, we propose employing one of the best "wool sorters" in the parts to select some of the large fine and course wool fleeces, from certain warehouses in Boston, have them cleansed and on exhibition at Concord the first week of September. *There will be an exhibition of fine and coarse wool at the New-England Fair.* We have made a fair proposition to the wool-growers, in order to test this matter of shrinkage, and if they are going to "play shy," why, our next course, and only one, if we are to test the question at all, is to propose to the wool purchasers and wool manufacturers to send us "crack fleeces from their storehouses" for the purpose of cleansing and exhibition. We have determined upon this course.

"Go to Work."—We intended sooner to have acknowledged the receipt of the Southern Cultivator, for the months of April, May and June,—the only agricultural paper in the late "Confederacy" which has survived the fortunes of war. Some good advice is given in the last issue under the head above quoted, urging the planters of the South, by the exercise of industry, economy and patriotism to retrieve the losses of the past and recover the prosperity they have lost, for themselves and for their States. The writer forcibly says:

"Why then leave the country at all! Will it pay? You are ruined in means. You cannot retire in affluence, to waste in foreign lands the remainder of your lives, in idleness and ignominious ease. Shame on your patriotism and manliness if you would! There is no land where you can get your bread without labor. It may be a harsh, unpalatable truth, but it is a truth that will bear to be repeated—THERE IS NO LAND ON THIS BROAD EARTH, WHERE, unless in quite exceptional cases, MAN CAN GET HIS DAILY BREAD, EXCEPT BY HIS DAILY LABOR. This, you and we, and all of us, may as well accept at once as our inexorable fate. Could we have saved our remaining possessions, now swept away by war, even though our slaves were gone, perhaps we could in our own persons, have avoided this destiny. But the necessity would have none the less certainly descended upon our children; and let us have the manhood to accept ourselves, the heritage of labor that inevitably would fall to them. * * Yes, we must accept the conditions God's providence imposes; we must work; and to our industry we must join a wise economy. Industry and economy will again bring us wealth and culture, and domestic comfort, and ultimately restore to us political power."

Several other articles are written in a similar tone, and if duly regarded cannot fail to do good.

From the prices quoted in the June number a return had evidently been made to dollars of the "greenback" description. In the "Confederate" dollars of April, the price of flour was $450 to $500 a barrel, tea $150 per lb., wheat $60 per bushel, paper $25 per quire, sugar $23 per pound, and apples a dollar apiece—and, as a postscript informs us, "greatly advancing" every day.

Sales---Advertising in the Country Gentleman.—GEO. D. PARISH, Esq., of Burlington, N. J., writes as follows, under date of July 7th: "On the 3d inst. I sold the Green Hill Farm, [first advertised in this paper of June 22d,] for $175 per acre, 365 acres, to Mr. Geo. D. Buckley, of Ohio. Mr. Sherman Hartwell, Washington, Conn., has bought one Cotswold Ram and two Ewes from Mr. RICHARDSON'S flock; Mr. Edgar C. Armstrong, Florida, Orange Co., N. Y., has also bought a ram, two ewes and lambs of Cotswolds, and some Leicesters. Various other buyers have purchased—ALL REFERRING TO THE ADVERTISEMENT IN THE COUNTRY GENTLEMAN."

This is an additional and very pleasant illustration of the fact that when *any thing good* is offered, no surer way of finding purchasers is accessible than to advertise it in our columns. Here are sales from a single advertisement amounting to upward of $65,000, *within a fortnight after its first appearance.*

Inquiries and Answers.

Draining.—I would like to inquire the best plan to drain a piece of spouty land? It is situated on the side of a piece of rising ground where there is plenty of fall to the outlet, but the bottom is all quicksand, so that tile will sink and fill up. I had it ditched with a mole-plow, but it did no good. There is a strip of dry ground between the swamp and the creek. Will some person that has experience in such work, answer the above, and oblige one who is trying to improve his farm. A SUBSCRIBER. [As a general rule, the best way to drain such land is to place the ditches at equal distances, parallel to each other, and running down the hill by the shortest or most direct course. They should be placed sufficiently near each other to affect complete drainage, which is usually about two rods, the depth being about three feet. If only a portion of the side-hill is wet, they may be brought together into a large main drain. In quicksand, pipe-tile must be used,

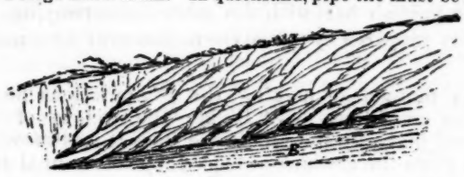


FIG. 1.

the ends being united and held in their places by insertion into tubular collars. These are easily made by cutting larger pipe-tile into short pieces when soft. If the quicksand is very soft, it may be necessary to place a strip of durable board or slab in the bottom of the ditch. Brush drains have also succeeded well for a term of years — the mode of forming which is shown in the annexed figures—Fig. 1 being the brush as first laid in the ditch, the butts pointing downwards below, and Fig. 2, the same settled under the earth.]

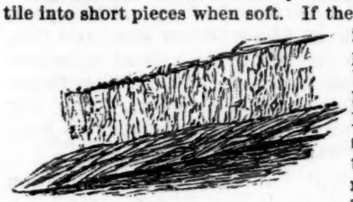


FIG. 2.

Grape Insect.—My grapevines are beginning to suffer from the attacks of a small insect about one-eighth of an inch in length, which flies and leaps with great agility, eluding the touch, but flying into your face as you approach the vines. When full grown and examined under the microscope, its wings appear beautifully variegated with different colors. It feeds upon the leaves until they turn white and seem to lose their vitality. Last year my Delawares were very much retarded in their ripening by the attacks of this insect. The Delaware, Allen's Hybrid and Isabella, seem to suffer most from it. I suppose it is the thrips or leaf-hopper. It does not seem to dislike whale oil soap or sulphur. Is there any remedy for it? C. S. L. [We have heard of this insect, but have fortunately had no experience with it. It is doubtful if any nostrum can be found to kill it—but it may be well to try dusting the leaves from a dredging box filled with white hellebore, which proves such a perfect remedy for the attacks of the currant worm.]

Multicole Rye.—A few years ago this rye was highly extolled through our agricultural papers. Will the editors or readers of THE CULTIVATOR please give me some information as to whether it has continued to prove worthy of the high favor it then enjoyed, and if so, of whom can I procure some seed? S. M. WINN. *Columbia Co., N. Y.* [We shall be pleased to hear from any of our readers who have tested the value of this rye.]

Berkshires.—*E. S. Monrovia, Ind.* White spots *are* regarded as marks of impure blood in Berkshire pigs—or *were*, when the breed, was first introduced, and more was thought than at present of the importance of maintaining its purity.

Failure of Raspberries.—Two years ago I set out in my garden some 100 Brinckle's Orange raspberries, obtained from a respectable nursery; they were laid down and covered in the winter—also kept well cultivated and trimmed. Last spring they blossomed finely, but yielded no fruit; some few of the heads had one or two small bulbs of fruit on them, but not a perfect berry. This season they again blossomed similar to the last, but no fruit whatever is to be found on them. Can you tell me what is the matter or cause of this? They are in good soil; some of the shoots from them, transplanted last year in another situation, have given the same result. Your answer will oblige ROKEBY. *Chester Co., Penn.* [Having never met with a similar difficulty, we are unable to assign the cause. Can any of our correspondents throw light upon the subject?]

Insurance on Live Stock.—Can you inform me whether there is a life insurance company for animals? If so, where can I get the necessary information to get some valuable animals insured? By so doing you will confer a favor on many of your readers. *Sandy Springs, Md.* [There have been two or three companies organized in this country for this purpose, but we believe they all soon gave up the business for want of patronage.]

Grass Bug.—I have noticed more of the effects of the *grass bug*, (don't know what to call it) than ever before, but don't know as it is very injurious. Its color is a greenish white, about 5-32 of an inch long, with an intermittent elongation of its hind parts, about once per second, making its entire length about ¼ inch, with six short legs, and two black eyes. It covers itself midway on the outside of the stalk with froth or spittle, white, and enough to half fill a small teaspoon. What is the name of said bug, and what its history? R. N. *Randolph, Vt.* [We have not met with this insect—can any of our correspondents give the desired information.]

Works on the Bee.—If there is any work on the management of bees that will be of use to me, I would send for it. W. HALL. [Quinby's is a very practical and useful work—price $1.75; a new edition of Langstroth is expected next winter.]

Rose Insect.—How can we destroy the small green worm that infests our rose-bushes, eating all but the skeleton of the green leaf, thus robbing them of half their beauty when in bloom? A SUBSCRIBER. [Probably a slight dusting with powdered white hellebore, which has proved so successful with the currant worm, would be effectual.]

Harris' Insects.—*J. E. P., Worcester, Mass.* You can get this work of the publishers, Crosby & Nichols, Boston. The price we believe is $3—an extra fine edition, $6.

Berkshire Pigs.—Judging from inquiries on this subject, those who have these pigs of undoubted purity would do well to advertise them.

Churn.—What is the best churn in use for say twenty gallons of milk per day? I need one very much. W. H. [The largest size Thermometer churn is the best we know of—can any of our dairy managers tell us of a better?]

Failure of Raspberries.—Is Rokeby sure he has Brinkles' Orange? I think he must have Col. Wilder—my Col. W. having always acted as he states his does, and my Orange always bearing a crop with protection. I have had both for seven or eight years, and never had half a pint of berries from the Col. W. P. O. *Somers, Wisc.*

Shares' Harrow.—I purchased a Shares' harrow last spring, and am very well pleased with its work on newly broken sward. The teeth of the harrow differ materially from the spike-like teeth of the ordinary harrow, bearing some resemblance to the plow share. They are so shaped as to present sharp cutting edges both vertically and horizontally, the object being to reduce the surface presented by freshly broken sward, to a fine condition for a depth sufficient to supply plenty of fine soil for any hoed crop. Wherever the turf presents itself it is cut up into small pieces, easily worked by the hoe. To obtain the best results, a couple of heavy logs should be chained on top, and the ground should be gone over two or more times. J. J. H. G.

Troublesome Bull.—Get a trace-chain about fifteen feet in length, with swivel in it; put it around his horns not too tight—a ring at the other end, and a good stake—the stake not too large, so the ring can turn around it with ease; a wooden stake, with a good head, will do, unless in hard land, when iron is preferable. Then stake him in your lot to graze, and you will have no more trouble about fences. P. O.

Cream Crackers, &c.—Will some of your readers give a recipe for making cream crackers, or the kind that melt as soon as you put them in your mouth? Also directions for making ice cream? S. E. R. *Eureka, Ohio.*

Wens.—Has any one of my brother farmers ever known a wen to grow on the tuft of the nose of a creature, and directly between the nostrils? I have a valuable cow that has a bunch there about the size of a butternut. It has been growing for some little time. If not a wen, what is it?

WM. E. COWLES.

Gooseberry Worm.—In reading my CULTIVATOR last year I notice an article on the currant worm, but it is a different worm from what I found on my gooseberry bushes last year and on my current bushes this season. The worm with me is yellow on the back, spotted with black and pale green—when full grown some inch and a half long. They walk like the canker worm, doubling themselves up and reaching forward their length—give the bush a jar and they spin down by a web to the ground. Are they the canker worm? Those spoken of in the CULTIVATOR last year are green and very numerous, but those with me are not very numerous, *but a great many more than I want.* The majority of them received a lasting impression with my thumb and finger, and the heel of my boot, which will do me good, if it does not them. J. E. P. *Worcester, Mass.* [The canker worm in its larva state is quite variable in appearance, and about an inch long. The worm above described is probably some other insect. In order to ascertain its character feed some of them in a gauze cage, and keep them until they come out in the perfect state. Doubtless the white hellebore dusting would kill these as well as other leaf eaters.]

Copperas for Currant Worm.—The CO. GENT. for July 6, gives a mode of destroying the currant worm by copperas water, which might be very valuable if it were not so vague. The time for using this remedy is not given, nor the quantity to be used for each bush, nor is it stated whether the application is to be made to the root or to the branches of the currant bush. One pound of copperas to five or six gallons of water, would make a solution strong enough I think, to destroy the leaves of any plant. A much weaker solution than this will destroy the leaves of pear trees. A. B. [The object of applying the copperas water is evidently for the purpose of killing the insect by its devouring the copperas with the leaves. We do not know of any experiment made with it, although so easily performed. All remedies to repel insects, short of killing them, are of little or no use.]

Shares' Harrow.—Will you or some of your correspondents give a description of Shares' Harrow? A SUBSCRIBER. [This is the most perfect of all implements for pulverizing the freshly inverted surface of sward land, to a depth two or three times as great as the common harrow can effect.—The teeth being sharp, flat blades, cut with great efficiency; and as they slope like a sled-runner, they pass over the sod, and instead of tearing it up like the common harrow or gang-plow, they tend to keep it down and in its place, while the upper surface of the sod is sliced up and torn into a fine mellow soil. No person who prepares sod for corn should be without this efficient pulverizer. Being made of cast-iron, the teeth soon become dull, and of little use—if the manufacturers would use steel plate instead, its value would be many times greater.]

Red Top.—I wish to make an inquiry about a "red top grass," and where it can be had, and at what price? It seems very strange that seed dealers are not sagacious enough to advertise their seeds in the COUNTRY GENTLEMAN—they do not understand the advantages of advertising, or they would. The seed I wish to obtain is a timothy—with red top and somewhat resembles the blue grass of Kentucky except in color—its proper name I do not know, but it is represented as a vigorous and speedy grower, capable of converting swamp land into meadow, and rendering it solid enough in a year or two to bear the teams to haul off the hay. If you know of such please advise me, and much oblige J. D. R. *Somerset, Pa.* [The common red top, *Agrostis vulgaris*, has a panicled head like the blue or June grass, and not a solid spike like timothy. Its name is derived from the reddish purple color of its loose heads. It grows well on moist land, but will not grow in swamps or bogs that have not been drained. It is not so stout a plant as the timothy, and could not be expected to form a turf solid enough to bear teams. The seed is sold at the large city seed stores—probably by Thorburn of New-York.]

Interfering Horses.—Some time since a Subscriber, Georgetown, D. C., inquired for a remedy for interfering horses? Pare the inside of the hoof alone, as it will bear, leaving the outside as full as possible, so that the shoe will set level. His smith will object, but tell him if he won't obey, he can't shoe your horses. If Subscriber don't discover the philosophy of the plan, if he addresses me I will explain.

Waterbury, Conn. B. H. ANDREWS.

REPORT ON SCOURED FLEECES.

The Report of an able and practical committee on 14 Merino fleeces and 1 Cotswold, entered for scouring at the Show of the State Wool Growers' Association, has appeared. The care with which their duties have been discharged, and the full details they present, render their report one of the most instructive and valuable documents on the subject that has ever appeared. It could only have been bettered if the competition had been larger, so that the results could have had a basis of still greater certainty—and yet we fancy there will be very little doubt that these results may fairly be considered of general application.

We publish herewith the table accompanying the Report prepared by one of the members of the committee.

His manner of making the computations he describes as follows: — "Divide the weight of the scoured fleece by the number of days it was growing. This gives the amount produced by the animal in a day. Divide this small fraction by the live weight. This gives the amount grown by *one pound* of animal in *one day*: multiply the fraction by 365 and it gives the amount grown by one pound of animal in a year, (this is the figure that decides who has won,) and this, multiplied by the live weight of the animal, tells how much it would produce in a year. This last operation proves the three foregoing calculations. The per centages of fleece to live weight, and of scoured wool to live weight, are computed in the usual way."

The committee point out that this examination brings additional confirmation to the rule heretofore tolerably well established, "that in the main, small sheep, having more surface in proportion to their weight, do give more wool per pound of body," and, therefore, that "for the mere purpose of wool raising, very large sheep are not desirable." This rule is well illustrated in a comparison which we have been at some pains to carry out, between the average returns of the first seven sheep in the order of merit, with those of the last seven—an average of a certain number constituting a better foundation for conclusions, than results from the same cases taken one by one. Thus we have:

	1ST SEVEN.	2D SEVEN.
Weight of Animal.....	51 lbs.	77 lbs.
do. Fleece shorn, ...	10.51	14.75
do. Scoured Wool, ...	4.22	5.00
Per cent. of Fleece to Live Weight,..	20.50	18.74
do. Scoured Wool to do.	8.17	6.41
do. do. to fleece, ..	40.23	34.31
do. of Shrinkage,.....	59.77	65.69
Quantity of Wool produced by 1 lb. of animal, in 1 year, ...	.08181	.06422

Judging from a casual glance at the first three lines in this table, one might say—"Well, if the second seven *are* larger, and therefore require more food to keep them, they also produce a heavier fleece, and more cleansed wool." So they do, but not in a proportion equivalent to the increase in size. It will be found that each 50 lbs. in the animal's weight, taking sheep possessing the characteristics of the *first seven*, produce, in one year, a fleece weighing as shorn 10 lbs. 2¾ oz., while the same live weight, taking those similar in character to the *second seven*, produce 9 lbs. 5½ oz.—a difference of a fraction over 13 ounces uncleansed wool in favor of the former, in annual return. This is something, but there is a difference on shrinkage in cleansing, to be brought into the account, for the yield of clean wool will stand in the one class at 4 lbs

NAME OF OWNER.	Order of Merit.	Sex of the Animal.	Age in years and days.	Condition of the Animal.	Weight of Animal.	Weight of fleece shorn.	Weight of scoured wool.	Per cent. of fleece to live weight.	Per cent. of scoured wool to live weight.	Per cent. of scoured wool to fleece.	Per cent. of shrinkage.	Age of fleece in days.	Quantity produced in each day.	Quantity produced by 1 lb. of animal in one day.	PRIZE COLUMN. Quantity of wool produced by 1 lb. of animal in a year.	Quantity produced by each animal in one year.
A. H. Clapp,	1	ewe,	2.	fair,	49.	9.85	4.75	20.	9.6	48.	52.	367	.01294	.000264	.09636	4.72
L. J. Bovee,	2	ewe,	.356	do.	53.	11.21	4.50	21.1	8.4	40.1	59.9	356	.01264	.000238	.08687	4.60
Wm. M. Holmes,	3	ewe,	1.43	good,	47.	8.97	4.43	19.	9.4	49.3	50.7	408	.01085	.000230	.08395	3.94
D. W. Percy,	4	ewe,	2.	do.	63.50	14.43	5.12	22.7	8.	35.4	64.6	273	.01372	.000216	.07884	5
M. F. Gibbs,	5	ram,	1.1	do.	50.50	11.31	3.97	22.3	7.6	35.1	64.9	366	.01084	.000214	.07811	3.94
Josiah Taft,	6	ewe,	.331	thin,	33.	7.03	2.28	21.3	6.9	32.4	67.6	331	.00688	.000208	.07592	2.50
O. S. Williams,	7	ram,	2.	do.	61.	10.81	4.47	17.	7.3	41.3	58.7	368	.01214	.000199	.07263	4.43
E. Gazley,	8	ewe,	1.20	fat,	99.50	8.90	7.31	8.	7.	82.	18.	385	.01898	.000189	.07098	7.06
Arnold & Green,	9	ewe,	2.	good,	55.50	9.15	3.59	16.	6.2	39.2	60.8	336	.01068	.000192	.07000	3.88
P. H. McMillen,	10	ewe,	1.4	fair,	68.50	12.42	4.81	18.	7.	38.	62.	369	.01303	.000190	.06935	4.75
Theron Steele,	11	ram,	1.60	good,	77.50	15.72	6.25	20.	8.	39.1	60.9	425	.01470	.000188	.06862	5.31
G. S. Center,	12	ewe,	1.347	fair,	54.50	10.25	3.33	18.	6.1	32.4	67.6	341	.00976	.000179	.06533	3.56
J. C. Sweet,	12	ewe,	2.	do.	78.50	17.50	5.31	22.2	6.	30.3	69.7	376	.01412	.000179	.06533	5.12
A. J. Blood,	12	ram,	4.	good,	95.	20.09	6.56	21.	6.9	32.6	67.4	385	.01703	.000179	.06533	6.20
L. J. Bovee,	13	ram,	1.15	do.	108.50	18.09	5.18	16.	4.7	28.6	71.4	380	.01363	.000125	.04562	4.94

1⅛ oz., against 3 lbs. 3⅜ oz. in the other—showing that the yield of the former, in *scoured wool*, is a fraction more than *twenty-five per cent.* greater than that of the latter. Now, if the careful experiments instituted in England in the feeding of sheep, have given trustworthy results, sheep consume food in proportion to live weight; and when it is the farmer's simple object to turn the food expended into as much wool as possible, two sheep of the right stamp weighing together 100 lbs., would consequently be more profitable than a single sheep of that weight, in just the proportion above indicated.

But there is one other observation which will occur to any one who examines this table with care—namely, that, irrespective of live weight, all the "brag fleeces" of which we hear so much, will naturally fall under the latter and *less profitable* of the two classes. Thus we lately copied from a contemporary, a statement of the cleansing of ten fleeces clipped at a shearing in Indiana this spring, on which the shrinkage averaged over 65 per cent., or almost identically the same as the average result of the inferior seven on the accompanying table. The three sheep sheared at Canandaigua which gave the heaviest fleeces—of which the most would have been said in the papers, and to doubt the excellence of which would have been to "attack" the "American Merinos,"—stand here together *at the very bottom of the list.*

Indeed it is singular to remark how the *percentage of shrinkage* appears to *increase* as you follow the table down, so that this item alone, aside from any comparison with live weight, seems almost sufficient to indicate the value of the animal. It is true that this increase is not a regular one, as regards the individual animals, but it is so when we take them in lots. Thus the shrinkage—

On the first four, averages	56.8	per cent.
On the second four, do.	63.0	do.
On the third four, do.	65.0	do.
On the last two, do.	69.4	do.

And, with these figures before us, we cannot well avoid this second conclusion, that "for the purpose of wool-raising," sheep whose fleeces shrink in scouring over *sixty per cent.* at the ouside, are "not desirable" to the practical farmer.

One to-day is worth two to-morrows.

Illustrated Rebus—No. 23.

Illustrated Rebus—No. 24.

Illustrated Rebus—No. 25.

ANSWERS TO ILLUSTRATED REBUSES.—No. 19. Cot-on-can knot egg-n bee king. "Cotton cannot again be king." No. 20. "The burden is light that is well borne." No. 21. W-in-T-ring cat-l re-quires grate k-r. "Wintering cattle requires great care." No. 22. "Cabbage plants well propagated are almost sure to head."

CHESTER COUNTY WHITE AND
Prince Albert Pigs

FOR SALE, not akin, best blood in the country, $18 per pair.
Apply to R. L. PELL,
June 8—w&mtf. Pellham Farm, Ulster Co., N. Y.

$2,000 A YEAR made by any one with $15. STENCIL TOOLS.—No experience necessary. The Presidents, Cashiers and Treasurers of three Banks indorse the circular. Sent free with samples. Address the
AMERICAN STENCIL TOOL WORKS,
July 13—w13t. Springfield, Vt.

WANTED.
A Good Shepherd or
A GOOD HERDSMAN.
☞ Good recommendations required.
R. A. ALEXANDER, Woodburn Farm,
July 6—wtf Spring Station, Woodford Co., Ky.

Cheese Factory at Adams, Jefferson Co., N. Y.

A few notes taken last fall during a visit to Adams, Jefferson Co., form the basis of the following article relating to the cheese factory at that place.

The factory, with its machinery, vats, &c., is owned by Lewis, Huestis & Ingraham, who furnish the labor and make the cheese, and receive therefor one cent per pound. The farmers who furnish the milk, supply also the salt, bandages, boxes and other materials used in the manufacture. A committee appointed by the farmers sell the cheese.

The building is situated about 30 rods from the Rome and Watertown railroad, on a stream called Sandy Creek. It is of wood, 144 feet long, 30 feet wide, and is two stories in height. The water used is received through pipes from a spring about 40 rods distant from the building, and is of the uniform temperature of 44° at the spring, and 48° at the factory. A small building a few feet distant from the factory, contains a steam boiler for heating purposes. The vat room is 36 feet wide, and 48 feet long. There are 4 vats of tin, each 3 feet 4 inches wide, 14 feet long and 19 inches deep, with a wooden vat outside, with a space of 1½ inches between the two. In this space cold water circulates during the night, to keep the milk brought from the afternoon milkings at a temperature of 50°. In this space also steam is introduced in the morning to heat the milk. The number of presses in this room is 16. There is also a sink on wheels to receive the curd from the vats and convey it to the presses. The whey runs off through pipes into a trough below the floor, and runs thence to the pigpens at a distance from the factory. There are usually from 100 to 140 hogs kept; each farmer furnishing milk to the factory having the privilege of sending one hog for each five cows he milks.

The number of farmers furnishing milk is 38. The number of cows kept by them is about 700. In the month of June, 1864, 14,000 lbs. of milk were furnished daily, and fourteen cheeses, weighing about 1,420 pounds, was the daily product of the factory—8½ pounds of milk was the quantity required for making 1 pound of green cheese. In August, owing to the great drouth, only 9,000 pounds of milk was furnished, and eight cheeses of about 114 pounds each were daily made. The cans in which milk is brought contain 15 or 20 gallons. The wagons, as they arrive, are driven upon an inclined platform to the height of 9 or 10 feet above the floor of the vat room; the cans are emptied into large tin vessels standing upon platform scales; the milk is then weighed and run off through troughs into the vats. Each farmer is credited on the books, morning and evening, with the weight of milk brought. Occasional tests are made with the lactometer of the quality of the milk furnished by each person.

All the cheeses are turned and rubbed every day. They are greased only two or three times in the season. Each cheese is numbered and dated with red ink. The cheeses were sold in May at 22 cents per pound. The next sale was made in June at 24¼ cents, and 26 cents was offered in July for the quantity then on hand, but refused. At the time of my visit in September, 730 cheeses were on hand.

There are two men and two women employed. Mr. Lewis is the superintendent.

Boxes are made in the neighborhood, and cost 30 cents each. The cloth for bandages costs 28 cents, formerly bought for 5 cents.

A large wooden tank at one end of the vat-room contains water heated by steam, for cleaning the vats and all vessels employed by the establishment. The utmost cleanliness is observed in every part of the building. The cheeses made at this establishment are of very superior quality, and command the highest market price. Most of them are sent to England, which country is our best customer for the superior cheeses which our well conducted factories are now turning out. G. B. H.

CATTLE BREEDING.

Breeding in-and in—Importance of First Impregnation.

This subject has been so extensively discussed that it would seem that there could be no new thing under the sun said about it. Yet we have not reached the bottom of the well, and there is probably as much more to be developed concerning it as has already been vouchsafed to us.

Breeding in-and-in, in the popular meaning, is the connection between produce of the same parent or between parent and offspring, and to this system we owe the superior breeds of cattle and race-horses in England and in our own country. Yet it begins to be the opinion of the *savans* that this may be carried too far, and that in fact incest should be as criminal among animals as in the human race. Mr. N. H. Smith, who resided a long time among the Arabs, in his "Observations on Breeding for the Turf," published some years ago, gave it as his opinion that when the breed is continued incestuous for three or four crosses, the animal degenerates. Professor Agassiz, at a meeting of the Massachusetts Board of Agriculture in 1864, in a lecture on the breeding of cattle, said that those of the same kind or family should intermarry, but there should be no incestuous connection. "Do not," says he, "breed in-and-in those which have such close family ties that you would breed disease in them by the closeness of the blood." It was a usage among the Jews, and most of the oriental nations, for the brother of a married man dying without issue, to take his wife for the purpose of perpetuating the line and race; but in India, according to Sir William Jones, this law was enjoined on the two lower castes, but prohibited in the higher, being called in the Brahminical code, "*a practice fit only for cattle.*"

Another law of the Jews, declaring that if a widow having children marry again, the children of her second husband shall be heirs of the first, seems to be founded upon a right knowledge of the laws of reproduction, though as yet but little known, and if correct of fundamental importance to the breeders of cattle. *The impregnation of an ovum may take place a long time previous to its development, and it only requires a stimulus of future connections with the male to bring it into existence.* Professor Agassiz had experimented with a Newfoundland bitch by coupling her with a water-dog, and the progeny was mixed, and future connections of the same bitch with a greyhound produced a similar litter *with hardly a trace of the greyhound.* Similar experiments produced like results, and we learn the Professor has continued his investigations in this interesting branch of physiology for the benefit of the agriculturists. At the meeting of the Board of Agriculture, (1863,) when these views

were enunciated, Mr. Chapin of Milford, stated that a hen turkey would lay two or three successive litters of eggs, having been impregnated only for the first.

"These laws," as Professor Agassiz well observes, "should govern us in our breeding of animals, and should make us careful in a selection of males for the FIRST impregnation of females, as upon this depends the future value of the female in producing the type which the breeder may design." The common opinion of our farmers that it is of no consequence as to the sire of the first calf, and the practice of turning young heifers among diverse cattle for summer pasturage, to be served by any bull, should be discarded if any regard is had to purity of stock, and to the value of the future progeny for special purposes. R. G.

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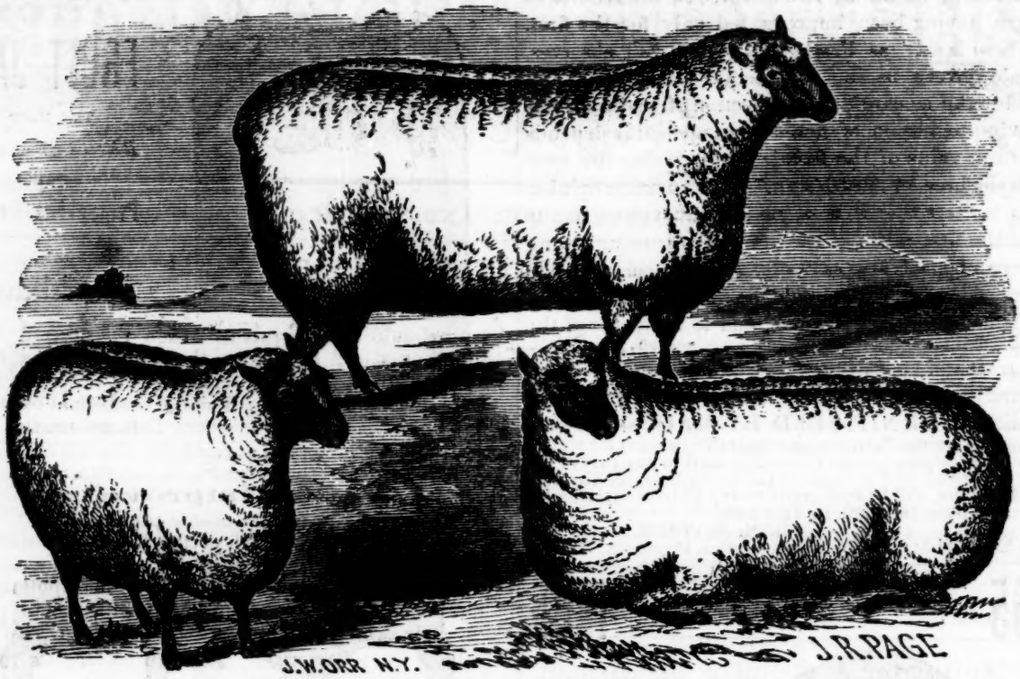

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